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SURGERY OF THE EYE

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SURGERY OF THE NOSE AND THROAT

AMERICA George M. Coates Carl Fischer R. Clyde Lynch Ellen J. Patterson. AUSTRALIA V.
 Munro. INDIA: John T. Murphy

AN IMPORTANT FEATURE OF THE INTERNATIONAL ABSTRACT OF SURGERY

Surgical literature, not alone of the English speaking countries, but of all countries, has, in the opinion of many of the most prominent men in the profession, been decidedly deficient in one respect, that of furnishing under one cover a comprehensive review of all the worthy surgical articles appearing in the numerous medical publications of the world.

To supply this demand THE INTERNATIONAL ABSTRACT OF SURGERY was established in February of this year as a supplementary publication to SURGERY GYNECOLOGY AND OBSTETRICS. In addition to furnishing abstracts of articles that appear either in regular publications or in the form of monographs we propose to include as well abstracts of the important papers read at meetings of all the leading surgical and other special societies throughout the world. In this way our readers are supplied with the meat of the transactions of these important societies at the earliest possible date.

In this number will be found abstracts of the important papers read at the Congress of American Physicians and Surgeons held in Washington in May, which includes the transactions of the American Surgical Association, the American Gynecological Society, the American Association of Genito-Urinary Surgeons, the American Orthopedic Association, the American Dermatological Association, the American Neurological Association, the Association of American Physicians, the American Association of Pathologists and Bacteriologists. Abstracts of the transactions of the American Ophthalmological Society, American Otological Society and American Laryngological Association will appear in the August issue, being omitted from this number because of lack of space.

In the same manner there will appear beginning in this issue comprehensive abstracts of papers read at the recent sessions of the two most important surgical societies of Germany, Deutsche chirurgische Kongress and Deutsche Gesellschaft für Gynäkologie.

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INTERNATIONAL ABSTRACT OF SURGERY

JULY 1913

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ANESTHETICS

Hornowski. The Glands of Internal Secretion in Case in which Death was Due to Chloroform (Sindert waktet chloroform, groohty ewigiz ergo wydzienia) *Lnowski Tygodnik Lek* 9 2, 191, 97.

By Zentralbl. f. d. ges. Gynek. u. Geburtsh. u. Gynaek.

The author describes the case of a male 33 years of age in whom death occurred twenty-four hours after extirpation of the lacrimal glands. Collapse symptoms supervened during the period of anesthesia. At autopsy the suprarenals showed endarteritis, arteriosclerosis and marked fibrosis, so that the relation between the normal adrenal cortex and the pathologically involved cortex was as 1:3 in the left gland, while on the right the proportion was as 1:1. Comparative weights showed the functioning part of both cortices to weigh 59 gm. while the medullary parts weighed but 0.33 gm. The chromaffin cells of the right adrenal stained very poorly as did those of the sympathetic ganglion. As far as changes in the other glands of internal secretion are concerned the parathyroids showed very few oxyphile cells, the thyroid, which weighed 43 gm., contained 7 adenomatous tumors 3-4 mm. in diameter. These cell aggregations, microscopically appeared like the thyroid in Basedow's disease according to Kocher's description showing epithelial hyperplasia and small amount of colloid. The other glands of internal secretion showed no changes. Only traces of the thymus were found imbedded in the fatty tissue of the mediastinum. Inasmuch as the heart showed no pathological changes, the author is of the opinion that death was due to adrenal insufficiency. Hornowski further discusses the questions why with such marked change in the suprarenals, no signs of Addison's disease were present, and also that the marked alteration in the thyroid produced no signs or symptoms of Basedow's disease. He finally reaches the conclusion that both diseases are probably polyglandular diseases and not dependent upon lesions of the adrenals or thyroid.

J. HORNOWSKI.

Jonnescu. General Spinal Anesthesia (Über die allgemeine rackmarksanästhesie) *Zentralbl. f. Chir.* 9 2, 11, 456.

By Zentralbl. f. d. ges. Chir. u. d. Gynaek.

According to the experience of Jonnescu an injection of stovaine combined with nitrate of strychnia may be made at any point of the spinal canal and without danger to the patient. In 938 operations he had two deaths, which in part were attributable to other causes. The injections produce a complete anesthesia from head to foot. For anesthesia of the head, neck, upper extremities and thorax, the injections should be made between the first and second dorsal vertebrae for anesthesia of the thoraco-abdominal region, the abdomen, pelvis and lower extremities, it should be made between the twelfth dorsal and first lumbar vertebrae. The preparations are kept sterile in two ampoules, according to the method of Razowitan. One contains the proper dose for pure stovaine, the other an aqueous solution of strychnia. One ccm. of the strychnia solution is drawn into the sterile syringe and emptied into the ampoule containing the stovaine, the solution is then ready for use. The maximum dose of stovaine is as follows: For adults lower portion of body 6 cc., upper portion of body 3-3 cc. For children and adolescents lower portion of body 4 cc., upper portion of body 0.5-0.5 cc. The dose of strychnia for anesthesia of the lower portion of the body is 1 mg. for each cc. in adults, in younger individuals 0.5 mg. for anesthesia of the upper portion of the body the dose of strychnia is 1 mg. in adults and 0.5-0.5 mg. per cc. in children and adolescents. If the general

condition is bad, as in achxia, in acute or chronic infections, shock or acute anemia, $\frac{1}{2}$ to $\frac{3}{4}$ of the original dosage is sufficient. To avoid cerebral anemia, perspiration and similar conditions, the patient should be placed in dorsal position immediately after the puncture. Still better puncture may be performed in the lateral position. TIERCE.

II 7715 Hyoscine-Morphia Anesthesia for Alcohol Injection in Neuralgia. *Lancet* Lond. 9. 3. clxxxiv 83 By Surg. Gynec. & Obst.

The author has treated 2 cases of trigeminal neuralgia besides numerous cases of supra-orbital and other forms of neuralgia. He doubts the possibility of finding with needle the nerve trunks of the three divisions of the fifth nerve and of injecting them with alcohol, especially at their deep foramina of exit from the skull, without causing so much pain as to make it a practical impossibility for a large proportion of subjects, especially ones of nervous type and already worn out with pain. He has always used the route described by Levy and Baudouin and also by Sicard, which the needle is thrust through the side of the cheek underneath the zygoma into the zygomatic fossa. The only satisfactory proof that the nerve had been properly injected is anesthesia of the skin and mucous membrane in the distribution of the nerve. Strong alcohol, when injected into the nerve trunk, instantly causes destruction of the nerve fibers with which it comes in contact. As a rule he gives $\frac{1}{2}$ gr. morphia with

50 gr. hyoscine hypodermically into the arm 20 minutes before commencing the injection process. When the needle is approaching the foramen ovale the patient usually shows some symptoms of sensitiveness, though it is not until the nerve is actually struck that a tingling sensation is felt in the lower lip and tongue. When this occurs the stylet should be removed from the needle and syringe filled with $\frac{1}{4}$ per cent cocaine solution fitted on, and a few drops then slowly injected.

After the lapse of half a minute a few drops of 50 per cent alcohol should be injected slowly into the same spot. Almost instantly as soon as a few drops of alcohol have been injected into the nerve sensation of touch and pinprick becomes blunted on the lip and slowly, two or three drops at a time, more spirit is injected until the anesthesia is complete and the pinprick is not felt at all even as pressure. Usually 1 to $\frac{1}{2}$ cc. are required to produce this effect. The injection of the second division in the sphenomaxillary fossa is much less painful than is the corresponding process for the third division in the foramen ovale. However the extraordinary calming effect of the hyoscine and morphine is most valuable and patients who are suffering severe spasms of pain, or who are very nervous, will keep quite quiet and peaceful during the whole process, and yet will be able to answer at once to the skin tests for anesthesia. He has seen only one case in which any ill effects occurred and this was only temporary. DONALD C. BLUMFELD.

Slevens Paralysis of the Phrenic Nerve in Pleurus Anesthesia after Kulenkampff (Pneumothorax bei Pleurisaesthesia nach Kulenkampff). *Zentralbl. f. Chir.* 9. 3. 21, 113. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Fifteen minutes after the usual pleurus anesthesia with 50 cc. of a 5% novocaine-hydrocarbon solution for parasthesia of the ulnar nerve, the patient began to complain of pain in the right side of his chest. At the same time a crepulous respiration like that in a dry pleurisy developed. There was pain on pressure in the region of the 8-9 ribs, and a diminished excursion of the lower border of the lung on deep respiration. On examining with the X-ray there was difference of the width of a hand from the left side on deep respiration. During the next three days the disturbances diminished quickly only mild crepitus and diminished breath sounds could be determined. On the fourth day X-ray again showed normal conditions.

The author discusses the possibility of the influence of the endocostal injection into the main trunk of the phrenic nerve in the neck, producing subscapular diffusion, and an influence on the anterior and medial branches which descend to the dome of the pleura. The first method seems to him improbable. The pain can be explained by the effect on the sensitive fibres of the nerve. The fact that the symptoms do not regress as soon as the effect of the anesthesia is worn off leads one to think of mechanical injuries (hemorrhage escape of air from the posteroer hump). The first danger can develop only after an already existing disease of the lung—bilateral paralysis of the diaphragm does not result in asphyxia according to Duchenne. That the condition resulted from an injection into the pleura, the author thinks improbable because no pleuritis developed. KULENKAMPFF.

Boothby: Present Day Methods of Anesthesia. *J. Maine M. Assn.* 9. 3. 12. By Surg., Gynec. & Obst.

From the point of view of the recent research work in anesthesia, Boothby discusses the subject under three distinct headings: (1) The pharmacological problem, (2) the mechanical problem, and (3) the physiological problem.

Under the pharmacological problem is considered the advantages of nitrous oxide-oxygen-ether as opposed to ordinary ether, and the former is strongly approved if the following fundamental principles are observed: (1) avoidance of cyanosis at any time (2) relaxation obtained by the addition of proper amounts of ether (3) the availability of an apparatus such as he has recently described in conjunction with Cotton, that will (1) deliver constant, even supply of nitrous oxide and oxygen, (2) render the supply visible so that the relative amounts of each gas can be estimated at a glance (3) possess an efficient ether chamber, and (4) fitted with an air-tight face-piece. He believes that while nitrous oxide anesthesia is far more difficult to conduct

safely and satisfactorily than ordinary ether and requires large experience and costly apparatus, yet when mastered it is at present the best method.

In connection with the mechanical problem, which deals with the maintaining of free current of air through the mouth, pharynx, and larynx, Boothby mentions three methods—the method of intra-tracheal insufflation originated by Meitzer and Auer the Crile nasal tubes, and the Davis-Sewall mouth gag. Intratracheal insufflation in intrathoracic operations is, without question, the method to be used. Its advantages in tongue operations are very great its value is debatable in intracranial operations and elsewhere it is not indicated except for obtaining practice in the method. In the hands of those well trained in its difficulties and the avoidable dangers, it is justifiably safe. For those untrained in its use, the Crile nasal tubes or Davis-Sewall mouth gags are preferable.

The physiology of respiration is also discussed at some length, and attention is called to the dangers of apnea after period of excessive breathing as well as the possibility that cyanosis is one of the conditions causing surgical shock.

Bloodgood Studies in Blood Pressure Before, During and After Operations Under Local and General Anesthetics. *T. Am. Gynec. Soc., 9 & May* By Scott, Gynec. & Obst.

Now that the mortality due to infection from faulty technique has been practically eliminated the mortality from shock due to the trauma of the operation and the general anesthetic—chloroform or ether—has become more prominent in the minds of observing surgeons.

The two factors over which we have the greatest control in shock during operation are the trauma of the operative procedure and the toxicity of the general anesthetic.

Ether has been substituted for chloroform, because it is less toxic. At the present time nitrous oxide and oxygen are taking the place of ether for the same reason. Trauma from the operative manipulations can be reduced to a certain extent by gentleness and care. There is no doubt, however, that theoretically the employment of local anesthesia during the operation will block most, or all, sensory afferent nerve impulses. In this way the brain can be temporarily disconnected from the wound.

Unfortunately for the development of this refinement of technique many operations can be performed on the ordinary individual with low mortality in spite of toxic general anesthesia and rough handling of the wound. Many surgeons do not realize this element in their mortality in the post-operative complications, discomforts, and longer period of disability.

In order to appreciate the sensitiveness of the different tissues and the difficulty of successfully anesthetizing them by local anesthesia, a surgeon must perform as many operations under local anesthesia as possible. Only in this way will he

train himself to successfully and completely isolate the brain from the field of operation. It is quite possible to infiltrate the tissues partially without producing anesthesia. If the patient is awake, the surgeon will be informed at once.

Under chloroform and ether the patient remains quiet in spite of the most painful manipulations so one would never know when local anesthesia were employed in conjunction with these general anesthetics, whether it was accomplishing its object.

Nitrous oxide and oxygen has therefore a double advantage over ether and chloroform. It is less toxic, and the general anesthesia is so light that painful manipulations excite reflexes. The patients move, muscles contract, so that under this general anesthesia one has almost as good an index of the efficacy of one's local infiltrations as when the patient is awake.

The nitrous oxide and oxygen therefore obliterates psychic shock and produces no toxic shock. The local anesthesia obliterates the traumatic shock.

From the author's observations extending now over a period of more than three years, he has become convinced that the best index to the patient's condition before, during and after operation is the behavior of the blood pressure. During a successful operation under local anesthesia, with or without nitrous oxide and oxygen, the blood pressure remains more or less uniform. Sudden rises in the blood pressure indicate painful manipulations. When continued, these manipulations are followed by a fall of the blood pressure. This means shock. When earlier in the operation these painful manipulations are followed by a fall of the blood pressure, the surgeon knows that his patient is in poor condition to withstand further traumatic shock.

Successfully employed, the combination of nitrous oxide and oxygen with local anesthesia will reduce the mortality in all these operations in which the mortality is due to shock. The author is confident of this. In all cases it will diminish the post-operative complications and discomforts and shorten the period of disability. These statements are based upon a large number of cases, but chiefly upon an observation of fifty resections of the colon. In ten cases there was, in addition, an operation upon the stomach, 8 resections, pyroplastic. All of these patients are bad operative risks. There was not single death from shock, although the average time of operation was at least three hours. There were three deaths, one from acidosis present before operation, not relieved by operation, one from thrombosis and embolism, one from late intestinal obstruction. In the majority of these cases the convalescence after operation was less trying to the patient than after an ordinary quick appendectomy under ether narcosis and not combined with local anesthesia.

The author would not dare to attempt the resection of the colon under the older methods of anesthesia combined with the most rapid operation but without local anesthesia.

SURGERY OF THE HEAD AND NECK

HEAD

Alessandri and Chiavaro. Resection of Three-fourths of the Lower Jaw by the Buccal Route and New Method for Mandibular Prosthesis (*Réssection des trois quarts de la mâchoire inférieure par voie buccale et nouvelle méthode de prothèse mandibulaire définitive*). *Pedidia*, Rome, 9 3 23, 49. By Journal de Chirurgie.

A young girl, 18 years old, had noticed three years previously a tumor in the right half of the lower jaw. It was operated upon and she was told that it contained three teeth. After the operation the tumor of the bone persisted and grew in size causing bony swelling on the gum.

On examination of the face it was found to be greatly deformed by a swelling in the lower part of the right cheek. The tumor which was the size of an orange, was irregularly ovoid in shape, with its long axis directed backward and to the left. It presented a smooth surface.

Operations. Two small incisions were made, one in the left submental region and one behind the right ascending branch, both half way up. Alessandri cut the bone at these two points with Gigli saw thus separating the whole of the diseased portion of the bone from the horizontal part on the left side to the vertical part on the right. He then rapidly removed the fragment by an incision in the gum anteriorly and in the buccal floor posteriorly with cutting of the muscular attachments packing and partial closure of the incision in the mucosa. Chiavaro apparatus for prosthesis was used. Five weeks later some disunion between the tongue and the floor of the mouth were cut. One month and one-half later the wound had healed completely and the apparatus was firmly in place. The cure has been permanent and the result excellent both from an aesthetic and functional point of view.

The fragment removed consisted of the whole of the right horizontal part and 1 cm. of the left, the right angle and 1 cm. of the right ascending portion. There was normal bone at the two ends from the angle up on the right and from the symphysis on the left. The intervening portion was deformed by tumor which had enlarged the bone, especially in front, where a great part of the cortex was destroyed and there appeared a bony mass which was partly broken down and contained regions infiltrated with blood.

Histologically it was a mixed sarcoma with predominance of spindle cells and many giant cells.

This as the second case in which Alessandri had performed resection of the lower jaw for perikortical sarcoma and used Chiavaro apparatus. The result in the first case was good as here though recurrence necessitated his doing the operation by the external route.

He insists that it is better to perform more or less

complete resections or disarticulations of the jaw by the intrabuccal method, though it is more difficult. Not only does one thus avoid disfiguring scar but also this method is almost essential for the application of the prosthetic apparatus of Chiavaro.

In the second part of the paper which has many illustrations, Chiavaro describes the technique which he used in this case in the construction and application of the apparatus for prosthesis. He then outlines his experiences with heavy prosthetic apparatus, temporary or permanent, and points the advantages of his over other methods, especially those of Martin, and ends with the following conclusions.

Immediate temporary suppression of the apparatus for prosthesis with rubber which does not offer sufficient resistance to the cicatricial contraction of the soft parts permits it to be raised up by the floor of the mouth against the remnants of bone, here it causes pressure ulcers to form and in each of which cases it is necessary to replace the apparatus properly. Suppression of the wings is maintained after the application of heavy permanent prosthetic apparatus. A serious defect in mastication as the lateral movements of the jaw are inhibited follows when these are used.

The weight and shape of the apparatus prevents the cicatricial contractions of the soft parts and serves to suppress the tendency to fixation which renders mastication and pronunciation difficult and starts irritation and inflammation of the tissues.

In case of disarticulation of the lower jaw the use of heavy prosthetic apparatus has the following advantages.

Suppression of the ascending branches of the apparatus which are the cause of painful irritation of the articular surfaces at the base of the skull on account of the constant cicatricial retraction of the roof of the mouth.

Suppression of the palatine plate, for the heavy apparatus remains in place on account of its light and special form. A. BAKER.

Hudson. Sub-Temporal Muscle Draining by the Aid of Silver Wire Drainage in Cases of Congenital Hydrocephalus. *Ann Surg. Phila.*, 9 3, 191, 238. By Surg., Gynec. & Obst.

This paper has to do with description of the technique of the operation as elaborated by the author.

An incision is made posterior and above the right ear down to the temporal muscle. The muscle is then freed from its attachment to the bone and the skull and dura opened. A long puncturing tube is then inserted into the brain until the cerebrospinal fluid flows from the open end. A permanent drainage tube is then inserted over the puncture tube and its outer end is connected to silver drainage

mat. This mat was previously fixed under the temporal muscle as soon as it was freed from the skull. The muscle is now carefully sutured in place with the finest black silk and the scalp closed with the same material.

The operation must be carried out under absolutely aseptic conditions. Several illustrations are given in the article showing the mats and tubes used in the operation.

JAMES H. SKILES.

Cushing. Concerning the Symptomatic Differentiation between Disorders of the Two Lobes of the Pituitary Body with Notes on a Syndrome Accredited to Hyperplasia of the Anterior and Secretory Stems or Insufficiency of the Posterior Lobe. *Am. J. M. Sc.* 9:3, Oct. 33.

By Surg. Gynec. & Obst.

The author assumes that every gland of internal secretion has a definite clinical picture associated with diminution or absence of its secretion and on the other hand that a perversion or excess of the secretion of the gland will give a picture which is exactly opposite. The clinical pictures associated with diminution or lack of secretion of the various glands of internal secretion have been pretty well worked out, e.g., in the case of the adrenal and the associated Addison's disease; thyroid insufficiency giving the clinical picture of myxedema; parathyroid insufficiency giving the picture of tetany; insufficiency of the islands of Langerhans giving the condition of diabetes; and mutilating operations on the generative organs have given many opportunities to observe the effect produced by eliminating the internal secretions from these organs.

The hypophysis has been considered, until very recently as a whole. But further experimental and clinical evidence has shown that the gland has a dualistic nature and that the functions of the two parts are very different. The neuro-epithelial portion, the posterior lobe, discharges its secretion into the cerebro-spinal fluid, therefore this part of the body is a gland of external secretion, since it does not discharge directly into the blood. The strictly epithelial portion, the anterior lobe, is a typical gland of internal secretion, as it discharges its secretions directly into the blood stream.

The anterior lobe elaborates a harmony which stimulates growth and is chiefly related to factors of skeletal development. An excess of the secretion from the anterior lobe produces the clinical picture of acromegaly. The posterior lobe has to do especially with metabolic processes and especially with the assimilation of carbohydrates. A deficiency of its secretion leads to a noticeable increase in the tolerance for sugars with associated tendency to adiposity, subnormal temperature, somnolence, dry skin, polydipsia, and polyuria, loss of hair, characteristic psychic, often epileptiform, disturbances, etc.—a sort of pituitary myxedema, as it were. An excess of posterior lobe secretion, on the other hand, causes these waste with loss of flesh, relative intolerance for carbohydrates, often with

spontaneous glycosuria, a moist skin, etc., symptoms the reverse of the above. Moreover secondary symptoms referable to other glands of internal secretion occur especially in reference to the generative organs. Apparently there is an increased activity on the part of the generative organs when there is hypophyseal hyperplasia and there is undoubtedly a decrease, even lack of development or atrophy when there is a hypoplasia of the hypophysis. As to which lobe this phenomenon is due there is a question but the author inclines toward the belief that it is due to changes occurring in the posterior lobe. Furthermore there may be clinical pictures which seem to be due to an increased secretion from one part of the gland and a decreased secretion from the other.

The acromegalic syndrome shows the picture of gigantism, if the hyperplasia takes place before epiphyseal union, or as more or less acromegalic changes if after epiphyseal union. In all but three of a series of fourteen cases coming under the author's care there were signs not only of an increased anterior lobe secretion but a decreased posterior lobe secretion. These latter were increased adiposity, marked increase in tolerance for carbohydrates, tendency toward somnolence, subnormal temperature, anaphrodisia. On the other hand, in the early stages of acromegaly there is apt to be the reverse picture, namely defective metabolism, spontaneous glycosuria, loss of flesh, etc.

In the syndrome of dysraphia adiposogenitalis the picture is due to a hyposecretion of both the anterior and posterior lobes. There is imperfect skeletal formation if the condition has come in early in life, and the associated symptoms referable to the posterior lobe, such as increased adiposity, defective development of the generative organs, somnolence, increased sugar tolerance, etc.

The syndrome of overgrowth with adiposity is supposed, by the author, to be due to an increased secretion of the anterior lobe and decreased secretion of the posterior. Three recent cases coming under the author's notice are cited. These cases all showed enormous skeletal development for their ages and marked adiposity. They all showed lowered mental activity, two showed very high sugar tolerance and the other could not be tested as regards this point, as quantities over 50 grams could not be retained. Several showed nervous symptoms, one being an epileptic. They all showed lessened sexual activity. One showed general increased cranial pressure phenomena.

JAMES H. SKILES.

Frazier. The Pituitary Body in Disease; the Method and the Results of Surgical Intervention. *Proc. M. J.* 9:3, xvi, 43.

By Surg. Gynec. & Obst.

Though the surgery of the hypophysis is a development of comparatively recent years, Frazier feels the results have been sufficiently gratifying at least to offer promising field and to assure measure of

relief to these incurable conditions. The anatomist, physiologist and surgeon have all been working to solve the various problems connected with pituitary disorders, and in distinct schools have arisen — one claiming that it is merely a rudimentary organ and the other that it cannot co-exist when the gland ceases to functionate. It has been proved conclusively, however, that certain serious disorders have a direct relation to either hyperplasia or non-secretion of the enlargement of the pituitary body. If the services of the surgeon are to be of any avail, it is necessary that the symptoms of these disorders be recognized early. The author describes briefly the three general groups into which they may be divided and cites cases of his for illustration. The first group is characterized by hypersecretion of the gland resulting in the form of acromegaly and dystrophic adipose growth. The third type may be seen alone or in combination with the other two. The patient exhibits the symptoms of this group in pressure upon adjacent structures of the increased intracranial pressure. In this latter group, however, there is no demonstration of metabolic disturbances; the author lays emphasis on the brain as the seat and diagnosis. There are also not infrequently psychical disturbances, ranging from somnolence and listlessness to well defined insanity. The most common cause in this group of symptoms however are those which result from injury to the optic tracts, causing bilateral temporal hemianopsia. The importance of the X-ray as an aid in diagnosis must not be lost sight of.

Fraser: An Approach to the Hypophysis Through the Anterior Cranial Fossa. (*Ann. Surg. Phila.* 9, 3, 4, 45. By Surg. Cyrus C. Ober.)

While this is in the majority of instances the hypophysis has been approached extracranially by the transphenoidal route, the author feels that in the future the intracranial method through the anterior cranial fossa will be the procedure of choice as by this latter route the venous approach is safer and the danger of infection lessened. The method which he advocates makes the exposure of the pituitary body as easy as serious difficulties as that of any other basal structure. The operation consists essentially in the reflection of an osteoplastic flap from the right frontal region in the removal of the supra-orbital ridge as suggested by M. Arlt.

The portion of the roof of the orbit later to be replaced and is rejoining the bony remains of the roof of the orbit down to the optic foramen. With suitable retractors the orbital contents are displaced downward and outwards, and the frontal lobe elevated until a view is obtained of the optic nerve. It then makes short incision in the dura and thus lays bare the cavity of the sella turcica. The remainder of the operation depends upon the character of the lesion to be dealt with.

As an example, Fraser cites the following case in which he found and evacuated a cyst of the hy-

popophysis. The patient, a young man, fifteen years of age, had been a normal child until the age of fourteen, when he was struck with a rock over the right temporal region. Two years later he grew perceptibly weaker, his weight began constantly to increase and he was gradually losing the sight of his right eye. When he first came under the author's observation in July, 1902, his appearance was that of a thick-set boy of fifteen or sixteen, with very marked panniculus adiposus. The genitalia — in spite of the type — suggested a child of ten or twelve. He suffered from severe headaches and the ocular disturbances had advanced to a state of complete right temporal hemianopsia. Aside from these marked glandular symptoms, the X-ray findings were very suggestive of pituitary trouble.

Under intratracheal anesthesia, Fraser carried out the operation as described above. As soon as the anterior sinus process was reached he made a transverse incision 2 centimeters long in the dura across from one anterior sinus process to the other and about a centimeter below the base of the skull, and by displacing the orbital contents with a retractor there was seen between the optic tracts what afterward proved to be a cyst of the hypophysis.

Fraser strongly recommends the intracranial route in all cases, and feels that it is positively indicated in cases where the outline of the sella is enlarged and where there is reason to believe the tumor extends beyond the confines of the sella and is encroaching upon the brain. It has secured this method as the last for hypophyseal cases with eminent satisfaction.

NECK

Wenglowski: Neck Fistulas and Cysts (Cystic Halothec and Cysts). (*Arch. f. Klin. Chir.* 9, 3, 4, 170.)

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

On the basis of his studies on human embryos, which have been described in detail, Wenglowski turns against the universally accepted theory of the origin of lateral neck fistulas and cysts from the second gill, left and pharyngeal pouch. As the main proof of this theory tends the course of the fistula under the X-ray fluoroscopy. But in most cases, a lower relation between the structures is to be found. In the first place, a series of further anatomical facts argue against the theory. The fistulas are usually so situated in relation to the stylopharyngeus (which goes to make up the body of the third gill arch) that they are below the muscle and usually open to the exterior on its posterior margin. The fistula would then belong to the third, and not to the second gill slit. In the second place, the explanation of the fact that many fistulas are covered with pavement epithelium offers many difficulties.

The pavement epithelium is supposed to belong to the pharyngeal pouch and the flat epithelium to the gill cleft. There is, however, externally incomplete fistulas which pavement epithelium and internal

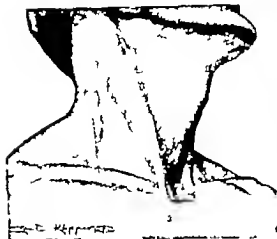


Fig. (M. Kenna)

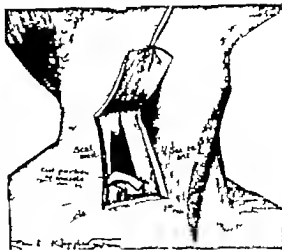


Fig. (M. Kenna)

salutous tracts with flat epithelium. There is little likelihood that, for example, the arch of the pharyngeal pouch should reach down to the incisura sterni, while the gill arch, between which the pouch is situated should retain its position unchanged. In the third place the inner opening of the fistulas usually lies behind the pharyngeal arch, or in the lower posterior corner of the mandibula, and hence is the domain of the third, and not of the second pharyngeal pouch. In the fourth place the direction of the course of the fistulas and their position with relation to the external carotid does not correspond to an origin from the second pharyngeal pouch and gill cleft.

The author now proposes the theory that the lateral neck fistulas and cysts arise in the Thymusanlage. The thymus arises from the third pharyngeal pouch in the form of a long canal which runs diagonally from the lateral wall of the pharynx to the sternum, here it develops the actual thymus body. The course and the anatomical structure of this canal correspond exactly to what has been found in the cases of neck fistulas and cysts. Aside from this course in certain cases a second embryonal tube comes into consideration which corresponds to the lateral thyroid gland Anlage. The internal opening of fistulas of this latter origin is characterized by its position lateral to the laryngeal opening.

WASCH.

Dowd Hygroma Cysticum Coll. Its Structure and Etiology. *T. Am. Surg. Ass.* 9 & May. By Surg. Gynec. & Obst.

Scattered references to hygromas of the neck are found in surgical and pathological literature, but the cases are so uncommon that few definite descriptions have been recorded. A tabulated description of ninety-one cases of hygroma in the neck, thirty-five in the axilla and eleven in other parts of the body is

given; many of the descriptions are incomplete. The term should be applied to cystic tumors which are lined with endothelium and which have marked individual power of growth. They are distinct from branchial cysts, thyroglossal cysts, tumors of the carotid body and lymphosarcoma. The demarcation from lymphangioma need not be absolutely definite.

The author described three cases of undoubted hygroma of the neck and a fourth case which was believed to be hygroma but in which inflammation had obliterated the fine structure of the cyst wall. All the cysts had been present from birth but had shown sudden and excessive power of growth. In one instance the cyst had extended into the mediastinum, in another into the pectoral region. One cyst had recurred very rapidly after removal of all visible parts. Silver-stained sections of the endothelium were shown also photographs of the patients and microphotographs of the cyst walls.

These growths are believed to be due to growth of embryonic sequestrations of lymphatic tissue.

M. Kenna. A Report on Two Cases of Cervical Rib and an Operative Measure to Prevent Recurrence of Symptoms. *Surg. Gynec. & Obst.* 9 2, xvi, 322. By Surg. Gynec. & Obst.

A review of the literature on neuritis of the upper extremities convinces one of the fact that until recently many cases of supernumerary or cervical rib passed unrecognized.

For a number of centuries anatomists have recognized extra cervical ribs, but this anomalous condition was not associated with the clinical phase which we now know these ribs produce.

The author believes the complete and permanent success of the operation for the removal of a cervical rib depends principally upon two points in technique: (1) An incision that gives easy access to the

harmony (embryologically) between the first dorsal rib and the site of exit of the roots of the nerves. The roots of the nerves may have their exit low and be subjected to pressure by a normal first dorsal rib or they may have a normal position and the first rib be high. We have had one case of brachial neuritis associated with tuberculous glands of the neck when during the course of the removal of the glands the first rib was seen to be high and to impinge the nerves. It was removed with complete relief from symptoms.

6. The theory of the difference in the site of exit of the nerve roots may explain the lack of symptoms in certain patients having well developed cervical ribs whereas other patients with smaller cervical ribs give pronounced symptoms.

Crowther: Aberrant Gout of the Submaxillary Space (Sur un cas de gout aberrant de la loge sous-maxillaire). *Reforme med* 93, 217, 32.
By Journal de Chirurgie

The submaxillary space is rarely the site of tumors of thyroïdal nature. Only nine cases appear in the literature. Those of Ekelberg, Payre and Martina, who have two cases each, Socin, Lenz, Reich, Heyler, Feldmann, each of whom have reported no case. The author reports tenth case under the following conditions. The patient was a woman 45 years of age. At the age of 32, following an attack of angina, she stated that a circumscribed tumefaction appeared in the right submaxillary space. At that time the tumor was round, mobile, and the size of a small nut. During the last three years it attained the size of a mandarin. It lay in the horizontal ramus of the maxillary bone and reached to its angle. In front it reached the median line of the neck, and below it extended to the hyoid bone. The skin which covered it was freely movable. The tumor was non-painful, elastic, and of cartilaginous hardness. Its posterior pole was mobile and attached only at the borders of the submaxillary space. It was not evident on the floor of the mouth, but by combined palpation one could feel it in this place. The left side of the space and the rest of the neck was normal. The right lobe and the isthmus of the thyroid gland were palpable and slightly enlarged. A diagnosis of mixed tumor of the maxillary gland was made and the patient operated. On opening the space this gland was found to be normal and lying below and behind the tumor. The latter was found to be enveloped in very vascular capsule and to be covered anteriorly and above by the great hypoglossus. It was easily enucleated since only a vascular pedicle attached it to the surrounding tissue.

This tumor was of brownish-red color with smooth surface covered by several deep furrows. On its posterior aspect a yellowish white nodule of cartilaginous consistency was present. The cut surface showed a number of cysts of various size. The hardest part of the tumor seemed to be composed of calcified fibrous tissue. Histologically

areas of normal thyroid structure with cavities lined with regular cuboidal epithelium filled with colloidal substance were present. At other points tissue like that of cystic goiter was present.

Clinically the tumor was very difficult to diagnose. In one case only that of Lenz could a diagnosis be made before operation but in this case the tumor was only secondarily in the submaxillary space. It occupied the greater part of the median subhyoid region and accompanied a tumor at the base of the tongue.

In the author's case there was not a trace of extension of the thyroid from its normal locality. In cases of this variety and they are numerous it is not uncommon to see myxodermas appear after removal.

AMÉLIE.

Wilson: The Pathology of the Thyroid Gland in Exophthalmic Goiter. *T. Ass. Am. Physicians*, 93, 317.
By Surg. Gynec. & Obst.

Wilson, continuing his previously reported studies on the thyroid, has recently reviewed the pathology of the thyroids from 208 patients operated on in the Mayo Clinic for conditions ordinarily diagnosed exophthalmic goiter from January, 1905 to January, 1913, and also as controls of the thyroids from 585 patients operated on in the same clinic for conditions ordinarily diagnosed simple goiter during the year 1913. Besides studying the gross specimens, he has made a detailed analysis of the histology of the glands in fixed tissues and tabulated and summarized the results of his study to determine the relationship of the pathology of the thyroid to the clinical condition of the patient. His conclusions are as follows:

A detailed pathologic study of fixed-tissue preparations from 208 thyroids, removed from patients whose condition would ordinarily have been diagnosed exophthalmic goiter, showed that 70 per cent of the thyroids contained large areas of marked primary hypertrophy and hyperplasia. A parallel clinical study has shown that for a period of three years all cases with true exophthalmic goiter and from whom gland tissue was removed, fall into this list.

In the above series of 208 so-called "exophthalmic goiters" plus 585 so-called "simple goiters" or total of 793 thyroids, but four instances of marked primary hypertrophy and hyperplasia of the parenchyma have been noted in cases which did not show clinical symptoms of true exophthalmic goiter. Three of these four patients were children.

3. Twenty-one per cent of the 208 glands studied were either regenerations or adenomata. Clinically while all of these were markedly toxic, all were chronic and none of them would now be grouped clinically as true exophthalmic goiter.

4. By assuming that the symptoms of true exophthalmic goiter are the result of an excretion from the thyroid gland and by attempting to determine the amount of such excretion from the pathologic data, one is able to estimate in a large series of cases

the clinical as of the disease with about 80 per cent of accuracy and the clinical severity of the disease with about 75 per cent of accuracy.

5 It would therefore appear that the relationship of primary hypertrophy and hyperplasia of the parenchyma of the thyroid gland to true exophthalmic goiter is as direct and constant as is primary inflammation of the kidney to the symptoms of true Bright's disease.

Jacobson: The Thyrogenic Origin of Basedow Disease. *Ann Surg Phila* 1931, 12, 31.

By Surg. Gyrec & Obot.

A review of the literature is presented contra to the theories of hyperthyroidism and of stibromism as etiologic factors in Basedow disease based on experimental and clinical observations.

Alf and von Lennart have come to the conclusion that the enlargement of the gland is only part of general disease and is therefore only symptomatic and that its enlargement is compensatory dependent on functional insufficiency. Carlson is based on regard to the thyroid structural changes Basedow disease as an evidence of altered secretion rather than increased secretion. Above regard the condition as dysthyroidism as the function of the thyroid gland is altered and the secretion of Basedow's goiter is not mainly produced

symptoms of the disease. H. found that intravenous injection of potassium iodide in dogs produced a similar reaction. Biercher believes that the thyroid gland plays an important role in relation to Basedow disease as implantation of thyroid gland intraperitoneally caused typical Basedow symptoms. — Garr, Copelle and others suggested this work by reporting the clinical improvement in Basedow following thyrectomy. Baruch caused experimental Basedow's disease by injection of an emulsion of ordinary colloid or parenchymatous goiter. The author calls attention to the ill-known artificial production of Basedow's disease by iodine or thyroid extract, extract indication in certain cases, and cites von Nothhoff's interesting case. Viewed from a pathological standpoint every case of Basedow's disease is accompanied by enlargement of the thyroid gland. From the macroscopic anatomic viewpoint, Kocher, Wilson and McCarthy and others have described typical histological pictures which are characteristic of definite stages of the disease. The appearance of Basedow symptoms present of tumors, inflammation of the thyroid speak strongly for the thyrogenic origin of the disease as do the results of treatment of the disease by surgical interference where there is a percentage of cure varying from 65 to 75 per cent. V. C. D. m.

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Garrow: A Case of Hypertrophy of the Mammary Glands (Ein Fall von Hypertrophie der Brustdrüsen). *Gynäk Rundschau*, 1931, 3.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

This anomaly of the breast is hardly mentioned in the text books. It is usually divided into two groups: (1) the permanent hypertrophy appearing with puberty; (2) the periodic hypertrophy which occurs during pregnancy and disappears during the first months after labor. The author cites a case.

The patient, 5 years old, had extreme hypertrophy of the breasts, especially the left one which was hung down to the navel. Circumference of the left breast in the middle was 35 cm. length from the fourth rib to the apex was 26 cm. Circumference of the right breast in the middle was 46 cm. length 35 cm. The breasts were very much enlarged at the beginning of the first menstruation and had not increased in size during the last ten years or during the pregnancy. Milk was secreted in small amounts. The breasts never interfered with daily work. She refused every treatment. R. Carsons.

Deaver: Review of 834 Operations on the Mammary Gland. *J Am M Ass.*, 1931, 12, 795.

By Surg. Gyrec & Obot.

Deaver discusses the problem of mammary tumors, especially from the standpoint of prognosis,

being his opinion on a statistical study of 334 operations on the breast. The author draws a parallel between the reduction of the primary operative mortality from 5 per cent to 1 per cent with the introduction of asepsis and antiseptics, and the reduction of the percentage of local recurrences from 65 per cent to 6 per cent with the general adoption of the Habicht principles of extensive dissection. Notwithstanding this, he sounds pessimistic not in the modern operative results, and firmly establishes this on the ground of late operative interference. Of the last 300 operative cases of cancer of the breast admitted to the wards of the German Hospital 3 had extensive ulceration and metastasis and the after results confirm the observations of others that these conditions bespeak the hopelessness of surgical cure. The average length of time the disease had existed, as estimated from the time of appearance of the first signs of trouble with the breast, was thirty months. In the cases in which the patients were well three or more years after radical treatment, sixteen months had elapsed on the average before operation.

Alterations in the normal fibro-epithelial relationship of bacterial, traumatic, involutionary or other cause, is almost invariably the precursor of malignancy and it is only at this stage that the success of an operation is assured for with the intervention of malignancy in no case can the limitations of the disease be foretold. As regards diagnosis, the author

says: When a positive diagnosis of mammary carcinoma can be made, the hope of operative cure is often in vain, for the classical signs are usually unmistakable evidence of extensive metastasis. A table of the physical signs in this series follows, and the possibility of cure based on these findings is indicated in a table taken from Greenough's studies. Of the author's patients well three or more years after operation, only 3 per cent had had retraction of the nipple and 8 per cent attachment of the tumor to the skin, but in no instance was the tumor attached to the pectoral fascia. Of 59 cases dying of early recurrence, 90.9 per cent had palpable axillary lymph node involvement. Of 6 cases living after the three-year limit, 5 per cent had palpable lymph nodes in the axilla.

The initial symptom in 78 per cent of the malignant cases and in 86 per cent of the benign cases was a lump causing as a rule no discomfort, and usually discovered accidentally. Pain was frequently complained of in the late stages of the disease but occurred in only 9 per cent of the cases as the initial symptom. The location of the various types of tumors is graphically shown, with the majority involving the upper-outer quadrant. Axillary lymph nodes palpably enlarged in the presence of a mammary growth are not absolute evidences of metastasis. This condition complicated 4.5 per cent of the benign cases in which microscopic study showed the absence of malignancy both in the tumor and in the glands. The microscope proved, furthermore, the absence of metastasis in 6.5 per cent of the 37 per cent of malignant cases in which axillary enlargement was noted on palpation, although in 6 per cent of the cases in which no mention is made of involved axillary nodes, metastasis was found microscopically. The author advises complete removal of the pectoral muscles and fascia, together with the axillary tissues, and considers in this connection the various routes of carcinomatous extension from the breast. He advocates removal of those digitations of the serratus magnus muscle arising from the fifth and sixth ribs when the tumor occupies the lower outer quadrant of the breast. The primary operative mortality in the series was .05 per cent. Endocarditis fatally complicated simple excision of a small benign tumor; the remaining two fatal cases died of uremia and pneumonia respectively after the radical operation for carcinoma. The end results in 9 cases were as follows: Of the patients with fibro-epithelial tumors, 44 have been traced, and of these 41 have remained free for an average period of six years; patients have had operations for similar tumors in the opposite breast, and one case diagnosed as fibroadenoma both clinically and microscopically had early malignant degeneration of the breast and died of recurrence after radical operation. Sixteen out of 75 cases of carcinoma, or 21.3 per cent, have passed the three-year limit and are free of recurrence for an average of 7 years; 37 died of recurrence and 4 from causes other than cancer; 6 others have re-

currence at the present time, while the remaining patients are apparently well, though sufficient time has not elapsed to make this certain. The author concludes that approximately one patient in five is permanently relieved of the disease by radical excision. His attitude is one of distrust to wider excision than the original Halsted procedure, and he expresses the belief that markedly improved results of operative treatment can alone restore waning confidence in the surgery of mammary cancer. This desideratum can be attained, he states, when our efforts are directed to an educational campaign that will result in bringing the patients to operation with the disease localized to the primary focus, rather than in the direction of elaboration and extension of the operative procedure. His concluding words are as follows: When popular opinion demands immediate operation on the discovery of a lump in the breast when physicians are taught to think of breast tumors in terms of operability and when misguided humanitarianism no longer prompts the surgeon to attempt injudicious operations, the present lack of faith in the surgery of this disease will give way to healthy optimism.

Molinas: Clavicle Plastic Operation Using the Spina Scapulae (Clavoplastik mit der Spina scapulae). *Deutsche Zeitschrift für Chir.* 9, 3, 1908, 80.
By Zeunzelt, J. d. Ges. Chir. u. Gynäkol.

After a short introduction, in which the operating procedures up to the present are mentioned, the author describes a new method for the replacing of a resected clavicle from the spina scapulae, which was used, with good functional results, in two cases. In both cases there was a tumor in the peripheral portion of the clavicle.

Method of operation. An equilateral-shaped incision is made beginning about hand-breadth away from the spinal column, over the spina scapulae, and extending around the shoulder and below the clavicle, up to the sternum. The clavicle is then freed and resected after severing the muscle insertions. This is followed by a freeing of the M. supraspinatus and infraspinatus, and chiseling off of the spine, which is turned about its acromial end and fastened to the stump of the clavicle by two wire stitches.

The only difficulty presented in either case by the operation was the freeing of the clavicle since in both cases the tumor had surrounded the large vessels.
VON TARNOWSKA.

Karaïannopoulos: Epithelial Tumors of the Clavicle (Tumeurs épithéliales de la clavicle). *Bull. Ass. franç. pour l'Etude du cancer* 913, 90.
By Journal de Chirurgie.

Karaïannopoulos reports a case of an epithelioma of the clavicle probably secondary to one of the digestive tract. The case was in the service of Delbet. There was no autopsy.

The case was that of a woman 4 years old, who had suffered for one year with a severe pain in the shoulder which was described as rheumatic. On

examination, a round hard tumor was found at the middle third of the right clavicle and two similar tumors at the inner third of this bone. These tumors were painful to touch and were apparently the cause of the spontaneous pain in the shoulder.

There had been several attacks of severe burning sensations and pain in the epigastrium with vomiting. The vomitus was foamy and not discolored and there was no hematemesis or tarry stools. There was a diarrhoea.

For two months there were symptoms of pressure on the right brachial plexus, the patient being unable to use the right hand or move the arm across the body. The general health of the patient was affected and she was very emaciated.

Operation. Total extirpation of the right clavicle and the tumor was accomplished with difficulty on account of the tumor's being adherent to the internal jugular, subclavicular and brachiocephalic veins.

Normal recovery.

The outer third of the bone was normal. The middle third of the bone was invaded with the neoplasm except on its inferior surface. The inner third was completely destroyed by the tumor.

The neoplasm was firm homogeneous, gray with brown mottling. Histologically it was a branching epithelioma in parts of which the cells were arranged in glands and in other parts there was a diffuse infiltration of the stroma with cancer cells. The cuboid or low cylindrical cells did not stain with mucicarmine. This prepared it to be cancer secondary to a gastric carcinoma but the absence of an autopsy made it impossible to confirm this diagnosis.

Karajannopoulos reports five other cases of carcinoma of the clavicle. Two of these reported by Delbet, were secondary to malignant tumors of the liver. Two other cases secondary to carcinomas of the thyroid were reported by Legros and Guibe and Malperne. Finally Estoc and Massabian reported a case of primary cystic teratoma of the clavicle.

Delbet remarks that in the three cases of carcinoma of the clavicle which were secondary to abdominal cancers, two of the liver, one probably of the stomach, the inner part of the right clavicle was always affected. This is probably not mere coincidence though our knowledge of the blood and lymphatic drainage of the clavicle is not sufficient to explain the phenomenon. JEAN CLERGE.

Smith. The Congenital Absence of Ribs; Report of Case with Complete Absence of the Left Seventh and Eighth Ribs. *J. Am. Med. Ass.* 9, 3, 12, 805. By Surg. Gynec. & Obst.

Smith mentions nine cases in the literature showing complete absence of one or more ribs. Few of these cases were subjected to an X-ray or post mortem examination so it is possible that non-palpable rudiments of ribs may have been present in some of them. He reports the following case. Female died the eighth day. A post mortem showed the cause of death to be pneumonia. The

thorax was normal on the right side. On the left side the 1st, 2d and 3d ribs were normal, except that they seemed jammed together and compressed laterally. The 4th and 5th ribs were fused together. At the costochondral articulation this bony structure became broader and was attached to the sternum by two cartilaginous bands. About 1.5 cm. of the 6th rib attached anteriorly to the same length of cartilage was found in the thoracic vertebral column or sternum. The 7th and 8th ribs and their cartilages were entirely absent. The spinal column was defective on the left side at the level of the 6th and 7th ribs and was covered with smooth pleura at the place where these ribs should normally be attached. The 9th, 10th, 11th and 12th ribs were floating. The xiphoid process was bifid. A slight scoliosis, with convexity to the right, was present. In addition were found: A scapulothoracic, patent ductus arteriosus, open foramen ovale, syphilitic periarthritis in nearly all the viscera and double central canal of spinal cord in the thoracic region. L. G. DW.

Brown and Krause. The Uncertainty of the Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax; Report of a Fatal Case, with Autopsy. *J. Am. Med. Association*, 9, 3, May. By Surg. Gynec. & Obst.

The introduction of nitrogen into the pleural cavity although a simple procedure, is not synonymous with successful treatment by artificial pneumothorax. The authors emphasize the dangers and complications that accompany the treatment and report two fatal cases, with autopsy findings in one.

Pleuritic effusion is the most frequent complication. In about 50 per cent of cases it is demonstrable. Some believe that tubercle bacilli are always found in the effusion but Brown has demonstrated them in two cases only. The authors believe that the chilling of the pleura following collapse of the lung may have something to do with the formation of an effusion. A marked effusion increases the difficulty of collapse therapy. It increases intrapleural tension, glues the surfaces of the pleura together and the lung expands and resists further efforts at collapse.

Empyema may supervene upon an effusion. The authors have had two instances of this. In one case each time pus was withdrawn pus was forced along the track of the needle by the cough and formed what appeared like cold abscesses. Tubercle bacilli were found in this purulent effusion.

Subcutaneous emphysema may cause much discomfort. A patient with violent cough may force the gas into the subcutaneous or mediastinal tissues, outside the parietal pleura, or into the deep tissues of the neck.

Pleuritic adhesions are frequent. The degree of negative pressure that is registered when the needle is first inserted into the pleural cavity indicates in general way the extent of the adhesions but tells nothing of their tenacity. The negative pressure is

due to the elastic recoil of the lung and proportionately as it is exerted upon adhesions it is reduced to that part of the pleural cavity that is free.

On account of the adhesions the number of patients suitable for collapse therapy is small. Of twenty-two patients, Brown could produce no collapse in eight, a partial collapse in six and a complete collapse in eight. Partial collapse may be productive of good results.

Dyspnoea following injection may be due either to quick collapse of the lung or the introduction of too much gas. Withdrawal of the gas may be necessary in some cases.

Pain in the chest from the presence of loosening of adhesions may be very severe and require morphine.

Pleural shock and gas embolism may threaten life. In pleural shock the patient grows pale and faint vomits and may lose consciousness. It occurs as the needle passes through the pleura and can be avoided by careful cannulization. Gas embolism practically never occurs when the injection is made under manometric control.

Disease in the non-collapsed lung may advance and it should be closely watched and the advantage and disadvantage of continuing the compression weighed.

The deaths among Brown's cases were due in part to spontaneous pneumothorax of the partially collapsed lung.

In one, a woman, aged 20, had bilateral advancing tuberculosis. Collapse of the right lung held the process in abeyance for a while but in a short time the process advanced in the left lung and gas injections were discontinued. Two months later the patient felt sharp pain in the right lung and became dyspnoeic and cyanotic. A needle was introduced and pressure reduced from + 0.1 - 0.3 mm. But it quickly rose again and although the process was repeated several times it produced no permanent effect upon the intrapleural tension. The patient died ten days later.

The other case was a woman, aged 26 who from March 9, had slow but steadily progressing trouble. On admission to hospital in September, 9, she had extensive involvement on right and compensatory fibroid changes in the left. In March 9, collapse therapy was begun and kept up until April, 9. It resulted in a reduced cough and expectoration and lessened temperature which in December 19, reached normal. But the temperature later rose and the weight steadily declined. A change of environment was ordered. She then presented signs of partial pneumothorax with hypercathartic succussion at apex and base. On the left few rales were present. On June 6th, 30 cc. nitrogen were injected and pressure left at + 50. At intervals thereafter 50 to 100 cc. nitrogen were injected and pressure left at + 8 to + 50. On January 6, 30 cc. were injected (pressure + 5) and that night patient complained of sharp pains in right lung and wheezing. Examination showed snoring rhonchus on the whole side with maximum

tensity in fourth I.C. Amphoric breathing replaced the former distant breathing. Later 100 cc. of pus were aspirated which contained large numbers of tubercle bacilli. The patient died February 3.

At autopsy it was found that the right lung was thoroughly collapsed and lay in the vertebral gutter. The thoracic cavity contained 500 cc. of thick, yellowish fluid. Thick fingerlike bands ran from the collapsed lung to the chest wall in the upper part of the thoracic cavity. On removal, the lung appeared as a shrunken tough, leathery piece of tissue, covered with an enormously thickened pleura. Lobule distinctions were lost. What was probably the upper lobe was now a cavity. Two slitlike holes communicated with the bottom of the cavity and probably were the points where the pleura was ruptured intra vitam. Section of the lung showed compact tissue of mottled reddish black appearance. Tubercles were numerous, some undergoing organization and many almost completely healed. At microscopic examination of part of the lung showed no gross tuberculous microscopically showed almost wholly granulation tissue. There were many microscopic tubercles and much pigment.

The left or uncollapsed lung was voluminous and showed diffuse tuberculous process which differed in age in different parts of the lung. The oldest spots being in the immediate neighborhood of the later lobar fissure. The lung was remarkably free from extraneous pigment.

TRACHEA AND LUNGS

Wolff Operation for Pulmonary Embolism after Trendelenburg (Operation der Lungenarterienembolie nach Trendelenburg). *Monatsschr. med. IV* 1904, 9, 2, 12, 78.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The patient could not be saved, as the heart beat had ceased even before the embolus could be removed. Cardiac massage artificial respiration, etc. failed. In most of these cases the diagnosis is very difficult. The question of interference will be even more difficult as even serious cases of embolus recover when treated conservatively. Rehn considers it safer to compress the vena cava manually when opening the pulmonary artery than to use elastic constriction, suggested by Trendelenburg because by the latter method cardiac dilatation is more apt to occur. In all cases developing marked cardiac dilatation after this procedure the heart will have to be exposed by section of the lower ribs. This will facilitate direct cardiac massage if required later.

Ruwac.

HEART AND VASCULAR SYSTEM

Stewart Five Cases of Suture of the Heart. *T. Am. Surg. Ass.*, 9, 3 May. By Surg., Gynec. & Obst.

Case Symptom of cut aneurysm and hemopneumothorax. Slab wound of left ventricle, three-fourths of an inch long continuous silk suture.

Ligation of the descending branch of the left coronary artery near its origin. Drainage of the pericardial and pleural cavities. Pyopericardium and pyothorax. Recovery. Death five years later from pulmonary tuberculosis. At autopsy the wall of the left ventricle was the seat of interstitial myocarditis, and in one place near the apex greatly thinned.

Case 2. Symptoms of acute anemia and hemopneumothorax. Stab wound of the left ventricle, half inch long. Continuous silk suture. Suture of the pericardium, drainage of the pleural cavity. Pyothorax. Recovery. Patient still well four years and three months after injury.

Case 3. Symptoms of compression of the heart. Pleura not injured. Stab wound of right auricle, one fourth inch long. Continuous catgut suture. Closure of pericardium. Pleura not opened during operation. Recovery without pyopericardium or pyothorax. Patient well after two years.

Case 4. Symptoms of acute anemia and hemopneumothorax. Stab wound of left ventricle, one inch long. Continuous catgut suture, closure of pericardium, drainage of pleural cavity. Death in forty-one hours. Topsy pyothorax, purulent pericarditis, acute infective myocarditis, acute vesicular endocarditis.

Case 5. Symptoms of acute anemia and hemopneumothorax. Stab wound of right ventricle, one half inch long. Continuous catgut suture. Closure of pericardium, drainage of pleural cavity. Death in one hour. Autopsy wound passed into right ventricle then through the septum into the left ventricle. Both ventricles were hypertrophied and the mitral valves were badly diseased.

Attention is called to the relatively slow pulse in the author's cases. In three it was on or below in one 60 and only 30 in the case with the highest count. The amount of external bleeding was never more than a trickle. This is accounted for partly by the valvular nature of the wounds. It is impossible with a single thrust of a narrow bladed knife to create a channel from the skin to the heart that will remain straight. So soon as the patient lies down the skin glides upwards an inch or more and the heart likewise ascends. If the pleural cavity is at the same time opened the heart is displaced farther by the resulting pneumothorax. In addition to the influence of this angulation of the tract in retarding the outward escape of blood, external hemorrhage is apt to be insignificant because the blood finds one, and usually two reservoirs, viz. the pericardial and pleural cavities, into which it may flow unimpeded. On the other hand, bleeding intercostal or internal mammary artery unassociated with a wound of the pericardium or pleura may give rise to considerable external hemorrhage, because, aside from the cellular tissue there is no place in which the blood can accumulate.

There are no pathognomonic symptoms of wound of the heart even hemopericardium may be due to wound of the pericardium alone or to wound of one of the heart vessels at the base of

the heart. The diagnosis can be assured only by exploration which should be done in all cases in which there is the slightest suspicion of wound of the heart.

In five cases of wound of the pericardium, the author has explored the heart without finding a wound in that organ, although in three cases the pericardium was injured and in one the heart was contused. In two other cases in which wound of the heart was suspected the wound did not penetrate the thoracic wall.

Technique of operation. Iodine disinfection of the skin, excision of the cutaneous wound, digital exploration. Formation of chondroplastic flap the size and shape depending upon the situation of the external wound and the amount of room necessary to expose and suture the wound in the heart. So long as there is a pneumothorax it makes little difference whether this flap is reflected towards the right or the left. If the pleura is intact, however it should be preserved from injury. This is best done by turning the flap to the left, and pushing back the incised pleura from the pericardium, as was done in Case 3. Enlargement of the pericardial opening in the axis of the heart, discovery of the wound in the heart by palpation. Inspection in the cases cited above was useless until the bleeding had been controlled temporarily by digital compression and the blood removed by sponging. With the finger on or in the cardiac wound a suture is inserted which is used as a tractor while the rest of the wound is closed. In two cases the wound was approximated with forceps during the suturing; this greatly facilitated the operation, but in one case the pulsations of the heart fell from 108 to 32 and the patient ceased breathing for a short time. A continuous suture is quicker than interrupted sutures, presents fewer knots on the surface of the heart, and less opportunity for leakage between the points of insertion. Catgut is the best material. In one case in which silk was used, shunt persisted until the silk was discharged. In three instances additional sutures were needed to control the bleeding, once because of spouting from the needle punctures (wound of right auricle) once to the large branch of the coronary which ran into the wound, and once to the descending branch of the left coronary near its origin where it had been accidentally wounded by the needle. This case of ligation of the left descending coronary artery is of considerable importance in view of the statements of some physiologists regarding the fatal effect of suspension of its function. The patient recovered and was apparently not inconvenienced by the obliteration of his coronary artery. At the autopsy however five years later, it was found that the wall of the left ventricle was the seat of interstitial myocarditis and in one place near the apex greatly thinned. It is recommended that all blood be removed from the pericardial and pleural cavities and that these cavities be closed without drainage. Drainage favors infection. If suppuration occurs later in either of

these cavities a drain can then be inserted. It is recommended also that the Verblazier insufflation apparatus be used during operation, or if the insufflation apparatus is not at hand that the thorax be closed completely and the air withdrawn from the pleural cavity by aspiration. The only discernible objection to this course is the possibility that distention of or suction upon the lung might renew or increase the bleeding from the wound in the lung. The importance of a free pleural cavity, however, cannot be overestimated. The large volume of air in the pleural space contains a great number of bacteria and these settle in the pleura and give rise to infection. In recent case of exploratory thoracotomy for a stab wound of the lung, the wound in the lung and the thoracic wall were closed, and as much air as possible aspirated from the pleural space. Recovery followed without empyema.

Harrigan: Temporary Arrest of the Heart Beat Following Incision of the Pericardium for Suppurative Pericarditis. *J. Surg. Med. 9 J. H. R. 1917* By Surg. Gynec. & Obst.

Harrigan in his statement in report of this case not only on account of the rarity of an operation for suppurative pericarditis but because the temporary arrest of the heart action of the pericardium might be physiological significance vital to the development of the technique of cardiac surgery.

The condition occurred in this poorly nourished, anemic child aged years. The purulent pericarditis along with an empyema developed secondary to subperiosteal abscess of the femur. Symptoms pointing to pericardial effusion led to an aspiration of the pericardial sac. Three ounces of purulent fluid under considerable pressure were withdrawn when flow ceased. Immediate operation was decided upon. Ether-oxygen narcosis was used and mediastinum opened by resection of 3/4 inches of fifth rib. Pericardium was deeply placed and some difficulty was encountered in making it previous to making incision. Upon opening the pericardial sac, large quantity of pus was forcibly ejected. The heart deeply placed within the pericardial sac, lay absolutely motionless. It was not determined whether the heart was in systole or diastole. The duration of the cessation was not timed. When an attempt was made to introduce gauze drain into the pericardium, the heart began to beat, and within minute the action became tumultuous. The child survived the operation several days.

The author concluded that it seemed logical to assume that there exists physiological association between the pericardium and myocardium, and that stimulation of the former causes a disturbance in the rhythmic activity of the heart. R. W. McNair.

Meyer: The Surgery of the Pulmonary Artery. *T. Am. Surg. Ass. 9 J. May* By Surg. Gynec. & Obst.

The main trunk of the pulmonary artery is easily accessible within the pericardium after incision of the

latter and pulling the pulmonary artery plus ascending aorta forward by means of an elastic tube which was conducted through the transverse aorta of the pericardium. Eleven years ago Trendelenburg recommended the operative removal of pulmonary emboli. He resected the left second rib with the help of a double skin muscle flap formation and thus got sufficient access to the pericardium and pulmonary artery. The elastic tube compressing both vessels is held by an assistant, the pulmonary artery is incised and the emboli are removed with forceps. The vessel wound is then closed by sutures. According to personal communication (December 1912) Trendelenburg and his assistants have done the operation eleven times. No permanent recovery was seen so far but the results were encouraging. One patient of Krüger lived four days after the operation and then died of pleuro pneumonia.

The arteries cannot be compressed longer than forty-five seconds. Lilien and Sievers of the Leipzig Clinic have found that the compression of the two vessels can be better borne evidently on account of avoiding the distention of the right heart. In doing this six or eight minutes are at the operator's disposal. The author hopes that the future will see a number of these patients saved by operation.

The second operation considered is the ligation of branches of the pulmonary arteries for bronchiectasis. It is recommended by Sauerbruch and Braun two years ago. The pathology of the disease and technique of the operation are briefly gone over and the history of three patients given who were operated upon by Meyer in this way. All three recovered and are greatly improved so far. The interruption of the physiologic action of the lobe of the lung produces shrinkage, connective tissue formation and adhesion between pulmonary and costal pleura. Multiple resection of ribs done at a second stage produces collapse of the lung later on.

At the present time the thorax has to patients under his care in whom it seems desirable to influence all three lobes of the right lung. A more central ligation of the pulmonary artery seems better for the purpose. Experimental work has been done in this direction. The main trunk of the left and right pulmonary artery can be ligated without harm to the animal. The left branch is nicely accessible within the pericardium by reflecting part of the latter or right outside of the pericardium according to anatomical conditions. Ligation of the right branch is more difficult. According to Meyer's observations, the best procedure is the exposure and ligation of the right pulmonary artery within the pericardium between ascending aorta and superior vena cava. Another approach is the division of the right pulmonary artery through an incision outside of the vena cava superior. The experimental work in this latter approach has not yet been completed. The advisability of ligating the main branch or its divisions is discussed.

If it should be shown that pulmonary shrinkage

and collapse therapy of the lung do not cure or at least greatly improve the trouble pneumectomy will become the operation of choice since we have learned to close the bronchus airtight.

Sauerbruch The Influence of Artificial Paralysis of the Diaphragm upon Pulmonary Diseases; Phrenectomy (Die Bedeutung von Lungenkrankungen durch künstliche Lähmung des Zwerghells, Phrenektomie) *München. med. Wochenschr.* 9, 3, 12, 63

By Zentralbl. f. d. ges. Chir. u. t. Grenzgeb.

The author performed the extrapleural thoracoplasty operation for tuberculosis in fifty-eight cases with only two cases of post-operative pneumonia of the inferior lobe; he describes these as aspiration pneumonias differing entirely from the views of Wilms. In neither of these cases did he do preliminary or simultaneous compression-operation on the inferior lobe of the lung. This fact and the belief that the thoracoplastic measures to be adopted must be extensive, despite the healthy con-

dition of the inferior lobe, led the author back to earlier studies, viz. the attempts to place the diaphragm in the position of its maximal expiratory movement by phrenectomy. In order to produce a position of rest for the lung, with compression and connective tissue proliferation, Bardenheuer did this operation at the suggestion of Stürts in case of bronchiectasis. The recently published studies of Schepelmann concerning the artificial paralysis of the diaphragm induced the author to report his not yet completed experiments in five cases, earlier than he had intended. It is not difficult to locate the phrenic nerve by an incision 5 cm. in length, along the posterior border of the sternocleidomastoid muscle. The nerve is 3 mm. in thickness and is easily found lying on the scalenus anticus muscle. Consequently the author suggests doing the phrenectomy at the location of the preliminary compression of the inferior lobe of the lung. He also claims the operation to be applicable in cases of bilateral tuberculosis and in bronchiectases.

Pfizer.

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Trapl An Inflammatory Desmoid of the Abdominal Wall (Zündhry desmoidalen Charakts. des Abdom.) 9, 3, 12, 76

By Zentralbl. f. d. ges. Chir. u. t. Grenzgeb.

During May 9, a subcutaneous myoma was removed from the right side of the fundus uteri of a 35 years old pregnant patient. Recovery was normal, the wounds healing by first intention. The following September the patient was delivered spontaneously and there were no complications. Four weeks after labor the patient had fever and complained of pain in the lower part of the abdomen. Three days later she was admitted to the hospital. Temperature at that time was 38-39.5° C. There was smooth cicatrix about 5 cm. long in the oöcal region as result of the former laparotomy. A solid non-sensitive tumor was present extending from the left pelvic region over the median line, up to the scar; this mass was connected with the abdominal wall. Vaginal examination revealed fluctuating mass connected with the uterus and which extended to and was part of the tumor of the anterior abdominal wall. The vaginal incision resulted in the discharge of serous fluid. After symptomatic treatment extending over period of seven weeks, the fever abated. When laparotomy was done, the incision was made parallel to the left side of the tumor. This consisted of inflammatory tissue several centimeters in thickness growing from the deeper layers of the belly wall. The upper part was so intimately adherent to a loop of the small intestine that it was found impossible to separate the adhesions by the ordinary methods, hence partial

resection of a large part of the tumor was done; this disclosed a small abscess in the lower segment of the growth, near the wall of the bladder.

Drainage was established at the lower angle and the abdomen closed. Recovery was uneventful. Several silk ligatures were discharged through the drainage fistula. The microscopic diagnosis was inflammatory desmoid, chronic granuloma containing thrombi. The excised tumor belongs to a class of inflammatory neoplasms frequently following hernia operations as described by Schloffer, Hahn, Baker, Ehler and others. They grow around infected ligatures.

Friedmann.

Bonamy Five Fibromyosarcoma of the Diaphragm Stimulating Hydatid Cysts of the Liver; Myomectomy; Cure of the Patient; Presentation of Specimen (Cinq fibromyosarcomes du diaphragme stimulant des kystes hydatiques du foie; myomectomie; guérison de la malade; présentation des pièces) *Paris chir.* 9, 3, 14, 191.

By Journal de Chirurgie

A woman, 34 years old, without any personal or family history of interest and with no functional disorder complained of a mass which extended below the right costal margin and caused pain all over her right side up to the shoulder. The mass was globular, fluctuating and raised the costal margin below which it extended. A diagnosis of hydatid cyst of the liver was made.

A laparotomy incision was made at the external border of the right rectus muscle. Bonamy found a bilobed white mass which he punctured and found to be solid. On further investigation it was found to extend up under the border of the ribs and to be attached to the diaphragm by a pedicle which

penetrated a large gap in the diaphragmatic musculature. By his fingers and a Museux forceps the author was able to enucleate this tumor and four more hard tumors which were embedded in the diaphragm without injuring the diaphragmatic pleura which was exposed. Fear of injuring this caused him to leave small tumor the size of a nut. The removal of these tumors left large cavity limited above by the diaphragm and below by the liver which was drained and the abdominal incision closed. A normal recovery followed. The specimens examined by Philibert were pure fibromas the largest of which weighed 800 grams and the smallest 70 grams.

J.-L. ROUX BRUNO.

Bernstein Etiology of Hernia (*Zur Kenntnis der Hernien*). *Arch. f. Klin. Chir.* 9, 3, 5, 904.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Bernstein examined the entire post-mortem material of the Berliner Anatomischen Anstalt during the intersemester 1909 and 1910 as regards the formation of hernia, and support for the theory of Koch, von Bergmann and Waldeyer that every hernia is predisposed to anatomically. The author found 5.8 per cent of 279 bodies to have a hernia or hernial bud. The frequency of hernia in man in proportion to woman is 3/4 to 1. The relationship of multiple hernia to the simple in man is 1/4 to 1 in woman 9 to 1. The theory that the pressure of the abdominal wall causes the hernia is probably overthrown to-day. The explanation that the pressure of the abdominal wall could be aided by poor anchorage and position of the abdominal content is not sufficient support for the production of hernia. Roeser suggests that the hernial sac must be considered as primary. The entrance of the intestine follows secondarily. Lishard explains the formation of the hernial sac through bulging of the peritoneum. He says it is usually preperitoneal lipoma which is forced outward and pulls the peritoneum after it. The author argues against the theory of Lishard because in the 279 cases he found only six in which there was preperitoneal lipoma. From the striking frequency of multiple hernia and buds in the same individual (9.4 per cent of the multiple against 6.4 per cent of the simple hernia) he concludes that the origin of the hernia consists in an anatomical predisposition, which can be traced to processes in developmental history.

KOENIG.

Ochsner The Treatment of Hernia in Children.
J. Lancet 9, 3, xxxii, 27.

By Surg. Gynec. & Obst.

This paper contains clinical observations on the treatment of hernia in a great number of children, covering a period of 7 years, as well as a study of the available literature.

Based upon these studies and clinical observations the following conclusions are derived.

The development of hernia in children is favored by (1) faulty development of the abdominal

wall (2) insufficient strength in the tissues involved in closing the umbilical, inguinal or femoral openings (3) abnormal intra-abdominal pressure (4) unaltered condition of the tunica vaginalis.

(5) The causes (1) and (2) are frequently inherited.

(3) The abnormal intra-abdominal pressure is due (a) to gaseous distention resulting from improper feeding (b) to the exertion necessary to evacuate the bladder on account of obstruction due to phimosis (c) to severe pressure necessary in defecation in case of constipation (d) to severe, long continued coughs (e) to vomiting (f) rarely to traumatism overexertion.

(4) Approximately 95 per cent of all cases of hernia in children will heal spontaneously if the abnormal intra-abdominal pressure is relieved and the hernial sac is kept empty.

(5) This can be accomplished by means of trusses, or in children more rapidly in inguinal and femoral hernia by placing the child in bed with the foot of the bed elevated each night for several months from 6 P. M. to 8 A. M.

(6) Children with tendency to the formation of hernia should be guarded against developing coughs.

(7) Their diet should be given at regular times and chosen with view to avoiding gaseous distention.

(8) Constipation should be entirely prevented.

(9) In case of boys, phimosis should be relieved, if present, by operation.

Badly nourished and badly cared for children of the poor should be treated in hospitals by the above method.

Operation is indicated (1) in strangulated hernia (2) in irreducible hernia due to adhesions (3) in case the opening is unusually large in free hernia, especially if the condition is hereditary (4) in reducible hydrocele, (5) in cases with undescended testicle, unless they show a tendency toward spontaneous cure.

Except in classes (1) and (2) the operation should consist simply in carefully dissecting out the sac, or in certain cases of inguinal hernia the neck of the sac ligating it within the abdominal cavity cutting away the sac, and permitting the stump to retract within the abdominal cavity and closing the skin wound.

(3) In class (3) the Ferguson-Andrews operation is indicated.

(4) In class (4) the Bevan Ferguson-Andrews operation is indicated.

(5) The recumbent position, with the foot of the bed elevated, is of very great importance in the after treatment of operative cases as well as in non-operative treatment of hernia in children.

(6) In young children who will not remain in bed with the foot of the bed elevated this position can usually be maintained by applying rubber adhesive straps to both lower extremities and having these held in vertical position by means of weights and pulleys.

7. If the child cannot be kept in this position, well-fitting truss should be worn night and day until there has been no protrusion for at least six months. At the same time the necessary precautions must be constantly taken to guard against abnormal intra-abdominal pressure from any cause.

8. Only 5 per cent of all cases of hernia in children require surgical treatment.

Haller: Chronic Inflammation of the Omentum in Relation to Chronic Appendicitis and Colitis (Des épiploites chroniques en rapport avec l'appendicite et la colite chronique). Paris: Sitenbell, 1909. By Zentralblatt f. d. ges. Chir. u. i. Grenzgeb.

Whether first directed attention to chronic inflammation of the omentum in 1893. Largely on the basis of Walther's material, the author now gives a connected presentation of this highly interesting and rare disease. Here belong only the omental inflammations as a sequel to appendicitis and colitis. The colitis may be primary but is usually a sequel of the appendicitis and especially again of the epiploitis. The mental adhesions in the pelvis as a consequence of disease in the adnexa, the omental changes in old hernia etc. will not be considered. They are entirely different in the pathologic-anatomical sense from the changes here considered.

The mental inflammation following chronic appendicitis or chronic primary colitis are characterized by their extension far beyond the original inflammatory focus and their independence. The complaints which they call forth are determined by their independent inflammatory character further by the mechanical hindrance of the internal functions. The two forms, which cannot be sharply separated are (1) free epiploides, (2) those with adhesions.

In the early stages of the inflammation the true chronic epiploitis is recognizable by the very color of the omentum. The inflammation occurs in spots or larger areas. In the further course characteristic nodules are formed of bright red color and considerable resistance, giving the omentum the appearance of granules ("granite spots"). With increasing adhesion the omentum may take on leathery consistency. Fine strands passing free from one part of the omentum to the other may be formed, especially on the posterior aspect, and the so-called "retraction-knots" are formed which distort the omentum and may again be the seat of inflammatory changes. Finally after the inflammation has run its course shining white plates are seen ("mother of pearl spots"). Besides these changes you find smaller or larger hematoma, often quite numerous in the omentum. The changes are noted chiefly in the right side of the abdomen but often over the entire omentum. It may shrink to a sausage-shaped tumor and distort the intestine within its adhesions.

Adhesions may be added. Omental adhesions to the anterior abdominal wall or the pelvis are most frequent. Consequences dependent of the

transverse colon and its much adhesions of the colon in the iliac region ("peritoneal band") constriction of the colon by lug-shaped omental bands spread over it ("precolic ring") but especially adhesions at the right angle of the colon whereby the colon is kinked. The well-known membranes over the cecum and the ascending colon are looked upon as remains of chronic appendicitis and colitis coordinated with epiploitis.

In a series of 453 appendectomies (interval operations or primary chronic cases) there are 37 cases of true chronic epiploitis. Of these 9 were without, and 8 with adhesions. Simple adhesions, such as those of the organs of the pelvis, are not included. Wherever true epiploitis is present in the pelvis an old appendicitis was also found. Clinically the cases are separated into those in which the symptoms cannot be differentiated from those of chronic appendicitis, those in which the phenomena of the epiploitis are in the foreground, and those in which in spite of an appendectomy all sorts of symptoms remain. 1 case of severe kinking violent symptoms and occlusion crises may supervene. The inflammatory foci in the omentum (even in the third group) may give exactly the picture of an attack of appendicitis. The symptoms are those of indigestion in manifold variety: gastric disturbances, constipation varying often with diarrhea, unpleasant abdominal sensations, dragging sensations often sharply localized (umbilical region, lumbar and kidney regions), flatulence, general weakness, pallor etc. Sometimes mental pain may be palpated. In every abdominal operation it is necessary to examine the omentum systematically. In an appendix may one can usually pull the omentum through the usual small incision and convince oneself of the condition of the colon. If alterations are found, a large incision may be made. The operation indicated is resection of the diseased portion of omentum and loosening of peritoneal membranes.

BURCKHARDT

GASTRO-INTESTINAL TRACT

Brown: The Etiology, Symptomatology, Diagnosis and Treatment of Acquired Displacement and Fixation of the Stomach and Intestines. 7. Ann. Am. Physiother. 9:1 May. By Surg., Gynec. & Obst.

The author presents a series of observations on acquired fixation, displacement of stomach or intestine, some with details local or referred symptoms, many which on account of their long duration and the vagueness of their symptoms had been regarded as cases of neurasthenia, psychasthenia, auto-intoxication or nervous indigestion, but which in reality were due to definite organic changes in the gastro-intestinal tract. In this series were 3 cases in which operative treatment was employed, 34 which have not been operated upon. In the former group, by the autopsy in vivo he has had at

band means of fixing the relative value of the clinical symptoms and comparison between them and the anatomical conditions. Poised as it were between two opposing forces, inspiratory muscles and those of the abdominal wall and pelvic floor and fixed at but few points and loosely so that the gastro-intestinal tract is singularly labile singularly susceptible to change in position. In this series he has not included those cases of intra-abdominal pressure changes within the abdominal cavity to weakening of the supporting tissues, to pressure of new growth etc., but has confined his attention entirely to those due to the traction or constriction of adhesions.

In the vast majority of high-grade displacements or fixation of the large intestine, symptoms are met with explained only on the basis of a chronic toxemia, and certainly the anlage is there in the displaced linked intestine deficient in tone and propulsive power.

Certain points of especial interest were brought out in the study of these cases—the marked degree of gastric or intestinal displacement possible, although no (or slight) local manifestations, but in almost all cases with some impairment of general health.

With even slight evidences of inflammatory condition in appendix, gall-bladder etc. the gastric picture presented was of the hypersthenic type, while in the case of adhesions with no inflammation even of low grade the asthenic type of stomach was more usual. In two of these latter cases they met with *Invaginatio* in the wide open pylorus with dilated duodenum, regarded by Codman as gastro-mesenteric ileus.

In certain cases of adhesions between gall-bladder or liver and lesser curvature of stomach we have the organic basis for the orthostatic type of hour-glass stomach with obstructive symptoms, especially marked in the upright and ameliorated in the prone position.

Constipation is present in a number of cases of chronic appendicitis, and if persistent without signs of tuberculosis should make one suspect this as a cause.

Fluoroscopic was done in all cases, besides the X-ray photograph and the former gave, as nothing else can, a means of studying these fixations and displacements and the effect of change of position and the respiratory movements, and furnished the best criterion as to the probable success of non-operative or the necessity for surgical treatment.

Chronic changes in the pancreas were met with in certain of the toxic cases, and probably play considerable rôle in the production of digestive and nutritional disturbances. In this same group of cases peculiar regressive changes in omental and sigmoid fat were seen, sometimes associated with pain.

In all cases, in addition to the proper dietetic and medicinal treatment, posture, exercises, massage, etc., should be tried, using repeated fluoroscopic examinations as the criterion of effort. It is surprising how much success will follow this treatment if

the adhesions are not too dense the kinking or constriction not too marked.

If non-operative treatment has proved unsuccessful, recourse to surgery is justifiable—appendectomy, separation of adhesion, drainage of the gall-bladder, pyloroplasty, gastro-enterostomy, appendicostomy or colectomy as the case may be.

After all these operations, and in fact after all operations within the abdominal cavity however simple proper after-care is absolutely essential to prevent the formation of new adhesions and in the lack of this after-care the surgeons have been singularly negligent as a rule, and have sometimes left behind a condition no less, and often more serious than the condition for which they were operated. Such after-treatment consists of very frequent change of position during the early days after the operation, by moving the patient from side to side by alternately elevating the foot and the head of the bed and, as soon as the condition of the wound warrants it, massage of increasing depth to be kept up a considerable period of time.

In all cases with congenital tendency (splanchoptosis, especially in children, one should try by exercise, diet, massage etc. to improve the tone of the abdominal muscles, to increase the abdominal fat and to enlarge the lower thoracic zone, in the hope of preventing periods of high grade with its tendency to mask low grades of peritonitis and appendicitis, and consequent secondary displacement, fixations, constrictions or links.

A consideration of these cases brings out certain general facts:

A large group of cases usually considered of functional nature have in reality true organic basis in a fixation or displacement of stomach or intestines. In many cases it is impossible to find any cause for the condition except a long lasting stasis of intestinal contents which seems under certain conditions to lead to chronic appendicitis, pericolicitis or perityphilitis with subsequent formation of adhesions. In other cases a careful analysis of the clinical history will bring out an acute attack, often in the far past and usually regarded as of trifling nature which in all probability was the beginning of the trouble, the first cause of the changes being in the gall-bladder or duodenum, pylorus, or appendix caecum, colon, sigmoid, as the case may be.

A chronic peridiverticulitis, pericolicitis, inflammatory condition of the gall-bladder, a superficial erosion or ulceration of the mucous membrane of pylorus or duodenum, or neoplasm may cause adhesions and associated fixation or displacement of stomach or intestines without definite local signs or symptoms in which a diagnosis is only possible by the use of all the diagnostic aids at our command, study of the temperature at rest and after exercise.

In the leucocytes, in the contents of the stomach after the test supper and the test breakfast, of the urine and feces—the former help us in fragmentary way it is true in determining whether the liver is insufficient in its protective mechanism

against poisons produced or formed in the intestines, poisons which probably play a considerable rôle in the production of certain of the symptoms of the case, the latter especially for occult blood, undigested foodstuffs, and for quantitative estimation of the pancreatic ferments of the character and localization of pain or soreness (present, pain down the right leg or in the right hip being of especial interest in diagnosing chronic appendicitis and the use of the X-rays, both radiophotography and fluoroscopy being employed by us in all cases, the latter in our experience being of fundamental importance, as by its use we are able to study not only change in the position of stomach or intestines, but also the effect of deep abdominal inspirations and expirations and of the change from upright to prone position in other words, fluoroscopy all tell us as things else—except long series of radiographs—the effect upon the motor function of stomach or intestine of the fixation displacement. By the employment of all these means correct diagnosis can be made in the great majority of cases, if we may judge by the verification of the findings in our group of cases by the operative findings.

3. In certain of these conditions we have without doubt the organic basis for various vague functional disturbances of digestion or for conditions regarded as neurasthenia, psychasthenia or of condition of health in which the patient is neither sick nor well, but always below par. An organic digestive condition, even if of very low grade, may change persons of even normal nervous habits into neurasthenic if it acts over a sufficiently long period of time and obviously upon susceptible nervous system the type so frequently met with in anorexia, in which secondary fixations or displacements are so common, the effect will be greater and more permanent. It would seem, therefore that the diagnosis of neurasthenia, psychasthenia or chronic nervous indigestion is only justifiable after the physician, by the use of all possible diagnostic means, has been able to definitely eliminate the possibility of an underlying organic basis of which these acquired fixations and displacements of stomach and intestines play considerable rôle.

It must not be forgotten in the study of these cases that function is more important than form, physiology than morphology and the assumption that change in position in the intestine from horizontal to vertical will materially increase the difficulty of propulsion is contrary to the fact that for many years this has been taking place in certain portions of the intestinal tract with no apparent disturbance. It is lack of tone not displacement per se that is the cause of the trouble, although in the origin of this atonic condition, adhesions, displacement, kinking and constriction may all play a part, and it is only by careful quantitative and qualitative studies of ferments and complicated chemical substances that we may hope to finally reach the basis of the local and general disturbances met with in this group of cases.

Zaaijer. Successful Transpleural Resection of the Carcinoma of the Cardia (Erfolgreiche transpleurale Resektion eines Kardiocarcinoms). *Ned. Med. Chir.* 1913, loccit., 4 p.
By Zentrifug. L. d. ges. Chir. u. L. Groning.

The author reports a case of carcinoma of the cardia which he operated successfully by transpleural method of his own. After he had determined by exploratory laparotomy the presence of a tumor of the cardia which reached to the hiatus of the oesophagus and was movable, hard, the size of a pigeon egg and had made fistula to the pyloric end after the method of Kader he undertook a few weeks later the actual resection in two stages in the following manner. In the first period under pressure narcosis he resected sub-peritoneally the 6th to the 8th ribs on the left side for a distance of from 4 to 4 cm. from the costal cartilage back and to the angles of the ribs, through two incisions running parallel to the ribs. He closed the wounds by sutures. After the patient had sufficiently recovered from this step the radical operation followed after thirty days, again under pressure narcosis. He made a circular incision in the left hypochondrium from the mammillary line upward to the posterior axillary line and reaching above the angle of the scapula. He then opened the abdomen and the left pleural cavity. Introducing the left hand into the abdomen and the right into the chest cavity he determined the operability of the carcinoma, which extended to the diaphragm. Next he isolated the oesophagus during which the right pleura was torn into in one small place. A gauze strip was led around for traction with which the oesophagus was put in tension. The diaphragm as split in the middle up to the hiatus of the oesophagus and a circular incision of the diaphragm ring was made. After ligating the omentum minors and cutting through the left triangular ligament and the gastrosplenic ligament the stomach could easily be pulled out so far that it could be cut through above the tumor between two clamps by means of thermocautery. After suturing the abdominal lumen it was again replaced into the abdominal cavity while the tumor end which was closed with clamp was placed outward. Following this there was dissection of the oesophagus, partly by cutting and partly by blunt dissection, all the healthy part could be pulled up to the skin without stretching. After the incision in the diaphragm had been carefully closed in two layers and at the same time the tear in the right pleura closed, the left lung was inflated and the oesophagus fixed to the costal pleura 4 cm. above the tumor. The left chest cavity was hermetically closed and the abdominal wall was closed by suture. The tumor was finally removed by cutting with thermocautery between two clamps. The clamp which closed the oesophagus was allowed to remain in the bandage for three days to avoid an infection of the wound too early period.

As regards few details of the method of operation, the following can be added. The author

does not believe in primary union of the stomach and esophagus. He expects to do this at a subsequent operation. So that the patient might partake of soft food through the mouth he united the esophagus fistula with the stomach fistula by an apparatus. He considers the preceding extensive resection of the ribs as an important step in the actual removal of the tumor. He thereby obtains a collapse of the left side of the chest, whereby the operative field, which is otherwise very deep, can be more easily reached, and permits the subsequent resection of the tumor. He emphasizes the fact that it is advisable not to remove the 11th even the 12th rib in the first operation, because after their removal the diaphragm will permit the lower part of the thorax to retract too much at times through displacement of the mediastinum severe disturbances of respiration follow which, however, can be overcome by administration of oxygen under pressure.

The author regards the thickening which the costal pleura undergoes an additional advantage of the preceding operation in the chest wall. The subsequent nourishment of the esophagus follows much better from thickened than from thin normal pleura. The fear of Sauerbruch and Enderlen that the extensive isolation of the esophagus results in harmful reduction of its nourishment the author does not agree with, as a result of animal experiments. Newman

Friedenwald and Baetjer: The Value of X-ray Examinations in the Diagnosis of Ulcer of the Stomach and Duodenum. *J. Am. Physicians* 9 3 May. By Surg. Gross & Obst.

The diagnosis of ulcer of the stomach and duodenum is at times most difficult problem. Not infrequently important symptoms are absent and the cases then become so typical that any additional aid in diagnosis must be looked for with great satisfaction. The X-ray has presented us with an important additional means of diagnosis in the study of this affection. While the authors do not believe that this method is as yet sufficiently well developed to be relied upon alone, yet they are confident that it often offers most valuable assistance as an aid in diagnosis of quite as much practical value as any of the important symptoms of the disease and taken in connection with the other signs is of the greatest diagnostic help.

They have selected from their eighty cases of peptic ulcers, in which X-ray examinations have been made entirely for this report, including those only concerning which they could feel confident as to the correctness of the diagnosis. Of these, there are ten cases of duodenal and ten cases of gastric ulcer.

Three of these cases were operated on and the diagnosis was thus confirmed. Three others had been operated on, and the ulcers were revealed at the time of operation, but were not interfered with, while the remaining fourteen presented such typical symptoms of ulcer including the presence of blood

in the stools, that the correctness of the diagnosis in these too remains undoubted.

The cases were first studied clinically and then without any note being given as to the nature of the disorder were sent for X-ray examinations.

The two reports were then placed side by side, and the clinical and X-ray diagnoses corresponded so closely in every instance as to make the results appear most striking.

The X-ray diagnosis of gastric ulcer and duodenal ulcer has engaged the attention of the Röntgenologist ever since the production of high-power apparatus has made it possible to obtain practically instantaneous X-rays of the gastro-intestinal tract. The old theory that there is a possibility of diagnosing ulcer by bismuth adhering to the raw surfaces is now practically abandoned inasmuch as experience has taught us that this rarely happens, because of the fact that the irritability of the raw surface produces hypermotility with violent contractions, so that it is almost impossible for the bismuth to adhere to the raw surfaces.

At present we are relying more upon the functioning of the stomach and intestines than upon the actual demonstration of the ulcer.

Carelessly enough the diagnosis of duodenal ulcer is much simpler than that of gastric ulcer. One can practically always rule out the presence of duodenal ulcer, but one cannot always rule out the presence of gastric ulcer.

From their studies the authors have drawn the following conclusions:

The X-ray offers most valuable assistance as an aid in the diagnosis of peptic ulcer; and although this method is not yet sufficiently well developed to be relied upon alone without entering into the clinical aspect of the disease, it is of the greatest diagnostic help in obscure cases.

In duodenal ulcer there is an excessive hypermotility of the stomach with rapid evacuation of the contents, so that the greater portion of the gastric contents is emptied within the first half hour; there is hypermotility of the duodenum with formation, usually of a vacant area, which remains fixed in all of the examinations.

3. The diagnosis of gastric ulcer can only be made in certain situations: that is, when the lesion is situated on the anterior surface of the stomach and along the anterior surface of the lesser curvature. There is in this condition an excessive irritation from the ulcer with consequent hypermotility and a spastic condition of the pylorus, so that for the time being there is practically no expulsion of the bismuth.

It is only when the spasticity relaxes that a portion of the bismuth is expelled. In gastric ulcer whatever its situation, we can always look for retention of contents. In certain instances there is a vacant area in the pylorus; there is frequently a tendency to hour-glass formation.

4. The X-ray affords an almost foolproof means of differentiating between gastric and duodenal ulcer.

5. By means of the X-ray we can positively rule out the presence of a duodenal ulcer.

6. We can approximately determine the degree of healing of an ulcer which cannot be as certainly determined in any other way.

Smithies Gastric Ulcer without Food Retention. A Clinical Analysis of 148 Operatively Demonstrated Cases. *Am. J. M. Sc.* 9: 3 ediv 342. By Surg. Gynec. & Obs.

To July 9, there had been 341 operations performed for ulcer of the stomach and duodenum at the Mayo Clinic. Of this number 404 were proved to be ulcers of the stomach in 164 (65.3 per cent) of these gastric ulcers there was as definite food retention demonstrable after twelve hours by the rosin and cooked rice tests (Strauss-Haasman). In 4 of these (34.6 per cent) operatively proved ulcers, no food retention was evident. Cases of ulcer with food retention permit of much easier diagnosis than those in which no food is retained and this study of histories with applied routine physical examinations and laboratory methods is designed to reduce the large number of cases whose pictures are so blurred by duodenal, gall bladder and appendix manifestations that unreserved diagnosis is rare.

The thoracic statistics relative to the cases reported and from the study of which are the following summary.

In more than one third of operatively proven gastric ulcers the emptying power of the stomach was well maintained.

Ninety-two per cent of this group of ulcers occurred between the ages of 30 and 60, males being affected three times as frequently as females. The American-born farmer furnishes large number of them.

3. Irregularity of food ingestion with the use of alcohol is not uncommon concomitant of gastric ulcer.

4. Eighteen and nine tenths per cent had previously had typhoid fever.

5. A mild grade of secondary anemia as present in the average case.

6. Weight loss averaging more than twenty pounds without marked cachexia was shown in this series. The loss may be so rapid that malignant disease is suggested, but some cases consistently gain in weight.

7. Appetite was lost or was capricious in nearly three fourths of the cases more than 65 per cent were constipated.

8. Nearly three fourths of the cases had spells or attacks of discomfort with good health in between such attacks. Such a history often extended over 30 years without alarming clinical manifestations. The attacks are usually called biliousness or dyspepsia. They often showed peculiar seasonal relationship. In 36 per cent of instances the relationship was continuous, with or without nutritional disturbances.

9. Abdominal pain or distress was a constant symptom in gastric ulcer. It was colicky in nature in more than 5 per cent, requiring hypodermic medication in 7 per cent of cases. It was frequently mistaken for appendix or gall-bladder disease, and often associated with such in addition to gastric ulcer. Night pain with loss of sleep was present in 19.2 per cent of cases. Eighty per cent of patients complained of epigastric distress frequently referred to the right costal margin or the back. In 87.5 per cent of proved ulcers pain or distress had definite relation to food ingestion. Eighty-three per cent of cases showed pain or distress coming on within four hours following eating. Nearly two-thirds of pyloric ulcer cases had discomfort from two to four hours after eating, more than one half of lesser curvature ulcers from one to three hours after eating more than one-third of posterior wall ulcers within three hours after eating and more than two-thirds of ulcers near the cardia less than two hours after eating, while more than 45 per cent of this class less than one hour after eating. Discomfort was most frequently controlled by ingestion of food alkalies and by vomiting, 19.2 per cent required morphine.

On palpation epigastric tenderness as exhibited in 95 per cent of cases. In more than three-fourths of the other cases the tenderness was not marked in the upper right abdominal quadrant. 3 per cent of cases showed palpable ridges.

More than four-fifths of the ulcers were located in the pyloric half of the stomach, and this was in general the anatomic area of greatest complaint or distress on examination.

The diagnosis of the character of the ulcer to be found on exploration as early possible when a careful examination was made.

10. Vomiting was present in nearly three-fourths of gastric ulcers without food retention. About 17 per cent vomited food. Only rarely as delayed vomiting observed. Vomiting was induced in more than 1 per cent in cases to relieve pain. Nearly 40 per cent of patients vomited regularly. Wertheim as a prominent feature in 9 per cent pyrosis and eructation in 87.5 per cent. In nearly one-third of cases vomiting came at the time of maximum abdominal distress. In 5 per cent of cases the ingestion of food precipitated vomiting more than 55 per cent vomited within three hours after eating. In 7 per cent night vomiting was feature. Ulcers in the pyloric end of the stomach are most commonly associated with vomiting even when there is no interference with the emptying power of the stomach.

Hemorrhage. Of 40 proved ulcers in this group bleeding (hematemesis or melena) was noted in but 4.7 per cent. About one-fourth of the cases had hematemesis alone. One-third hematemesis with or without melena. While 7 per cent had melena alone. Severe hemorrhage or frequently repeated moderate hemorrhages are usually associated with faint feelings or actual fainting (4 per cent). Hematemesis was more frequent than melena,

but melena alone may occur entirely independent of the location of the ulcer. While bleeding is associated with any type of ulcer nearly two thirds of those doing so show operative evidences of perforation.

12. Test-meal findings acidity. Irrespective of location of the ulcers the average total acidity was 55, the average free HCL 45 the combined HCL in 8 per cent of cases, between 10 and 30.

Total acidity is most commonly higher in ulcers involving the lesser curvature and anterior wall than where other parts of the stomach are involved. High free HCL is noticeably more frequent where the ulcer is at the pylorus. While high free HCL is usual in cases in the third decade of life, this is not the rule.

Following food ingestion the great majority of cases show pain within four hours. This series shows that during this period free HCL is progressively increasing. Patients complaining of continuous distress do not necessarily have high acidity. Vomiting is not usually associated with high free HCL. More than half of the non-vomiting cases had higher acidity than was the average of those vomiting. The average free HCL of patients bleeding was 55+. More than half of the cases giving no history of hemorrhage had an average free HCL of 46.

The highest free HCL averages are associated with subserosal perforating ulcer.

13. Operative findings. More than two-fifths of the ulcers were at the pylorus.

Of 50 ulcers microscopically examined in this series 4 per cent showed active inflammatory change per cent early carcinoma.

In 35 per cent of cases, diseased appendix was associated with gastric ulcer. In 5 per cent cholecystitis and cholelithiasis were demonstrated as concomitant processes. In nearly two-thirds of this group of gastric ulcers diseased appendix and gall-bladder were revealed operatively. In view of these figures it is evident that all laparotomies should be thoroughly exploratory even when well-marked gastric ulcer has been demonstrated. Operative procedure should be adopted in the individual finding on exploration. A routine technique is frequently accountable for poor post-operative progress.

Prompt relief of symptoms with a comfortable after-course is the rule following operative treatment of retention-free ulcer cases. This series showed an operative mortality of .4 per cent. Rather more than 4 per cent required second operation. This usually occurred in uncommon cases.

H. A. FORBES

Corner Perforation of Gastric or Duodenal Ulcers; Inference on Modern Treatment Drawn from Histories of Patients Who Have Recovered. *Lancet* Lond., 9 p. 600.

By Surg., Gynec. & Obst.

The author classifies the ulcers particularly under discussion as gastric ulcers, which are present at the

cardiac end or in the body of the stomach, and pyloric ulcers, which term includes ulcers on either side of the pylorus, i. e. in the stomach or duodenum. Taking up the question of the performance of a gastro-enterostomy in cases of acute perforation, he does not agree with Sir Berkeley Moynihan that a gastro-enterostomy should be performed at the same operation as that at which the ulcer was sutured. He reports 4 patients who have recovered from an operation for the perforation of a gastric ulcer between 1900 and 1902. He says that the patients owe their cure largely to two factors: (1) the situation of the ulcer and (2) the pathologic character of the ulcer.

(1) *The situation of the gastric ulcer.* From his investigations he believes it is reasonably certain that ulcers in the cardiac end and body of the stomach offer a far better chance of complete cure than do ulcers in the neighborhood of the pylorus, whether they be on the anterior or posterior wall or on either curvature. He believes that one is quit safe to argue that a gastro-enterostomy is not required in as many as half the cases of the perforation of a gastric or duodenal ulcer.

(2) *The pathologic character of the ulcer.* To sum up the results of his examination of these 40 cases and 5 years of literature, it would seem that

Many subjects of the perforation of a gastric ulcer are benefited by a gastro-enterostomy. This is particularly true if the perforating ulcer is in the neighborhood of the pylorus, gastric or duodenal.

2. It would appear speaking generally that a secondary gastro-enterostomy i. e. after the patient has recovered from the immediate danger of the perforation, is better than a primary gastro-enterostomy.

3. It is better for the patient to have a secondary gastro-enterostomy when it is required than to have the additional danger of a primary gastro-enterostomy which may not be needed. It would appear that the betting is rather against than for the gastro-enterostomy.

4. It has not been shown that a primary gastro-enterostomy presents such advantages over a secondary gastro-enterostomy that it should be practiced in the treatment of the perforation of ulcers even when situated in the neighborhood of the pylorus.

In reference to occlusion of the pylorus Corner says that without pyloric obstruction a gastro-enterostomy is no panacea for ulcers in the neighborhood of the pylorus or duodenum. This occlusion of the pylorus was first suggested by Berg. Since this date the author has always placed a ligature on the pyloric end of the stomach when doing a gastro-enterostomy for pyloric ulcers. When the patient's condition allows it, he has had better results from posterior gastro-enterostomy done after Roux's method than any other. In default of being able to do a Roux's gastro-enterostomy he believes that it is better to do an entero-entero-

tomy and place ligature, not tightly on the afferent loop of the jejunum between the entero-enterostomy and the stomach as first suggested by Fowler.

The best local treatment for perforated gastric or duodenal ulcer is to close it by suture and the abdomen with drainage. Many perforations deemed to be closed satisfactorily at the operation are not so an hour or two later hence there is justifiable doubt whether cases of perforated gastric or duodenal ulcer can recover when the perforation is not closed, or at least are imperfectly closed. He says the firm closure of the perforation and of the abdomen, without drainage, is undoubtedly the best treatment that can possibly be carried out. If this fails appears to afford doubtful closure of the perforation no further time should be spent on it, but the ulcer plugged and drained this drain is removed in about 36 hours under anesthesia with nitrous oxide gas and is not replaced. In regard to the occurrence of ventral hernia, examination of the patients who had recovered from an operation for operations for the perforation of gastric or duodenal ulcer showed the facts. First, it may be presumed that ventral hernia are not infrequent after an operation for the suture of perforated gastric or duodenal ulcer. Secondly where two incisions were present, it was more usual to have hernia through the scar in the upper abdomen than through that in the lower abdomen.

DONALD C. BALFOUR

Farys. Results of Surgical Treatment in 63 Cases of Malign Cancer and Cancer Imbedded Upon Ulcers, of the Stomach (Résultats de traitement chirurgical de 63 cas de cancers et ulcero-cancers gastriques). Arch de mal de f. 1909, digest Par 9, 1, vi, 6. By Journal de Chirurgie.

Of 60 cases which Mathieu has had operated upon for carcinoma of the stomach since 1907 Farys has only 60 records which are sufficiently complete to be serviceable for analysis. These allow study of the post-operative course and the conditions favorable to prolonging life.

All the pylorotomies have been followed by recurrence.

The patients on the service of Mathieu who are in too feeble or cachectic condition are not operated upon because in such no benefit is derived from intervention.

Out of eight exploratory laparotomies, six died soon after the operation (3 on 3 and 30 days) two survived (one at months, the other one year).

Of thirty-nine gastro-enterostomies, eight survived (few hours to few days eleven did not survive six months nine survived for six months to one year nine from one year to two years one has survived two years (1 year and 6 months) one three years (3 years and 4 months).

Among these thirty nine must be included nine ulcero-cancers (carcinoma developing upon pre-existing ulcer) five (55 per cent) have not sur-

vived one year four (45 per cent) have survived over one year.

Of the remaining thirty (pyloric cancers or cancer of the lesser curvature) 77 per cent have not lived one year 3 per cent have lived more than one year.

Eleven simple pylorotomies (Billroth I) were performed five died in few days five survived from one to four years and six months one (total gastrectomy) survived three years.

Six Billroth II two died in ten and fifteen days respectively four survived from two months to a year and ten months. Thus, 45 per cent died in a few days and 55 per cent made satisfactory recoveries. Of the sixteen cases ten had an ulcero-cancer and six cancer of the pylorus. The results appear better the ulcero-cancer.

The extent of the neoplasm, if it causes a stenosis, should not be a contra indication to gastro-enterostomy since this allows the patient to be nourished.

According to the character of the tumor the results are different, thus in ulcero-cancers the survivors of more than one year are 66 per cent in cancer proper they are only 33 per cent.

The results are not so good in the young on account of the more rapid development of the neoplasm. Immediate improvement in general follows operative intervention and is very marked in most of the cases, being evidenced by increase of appetite. Increase in weight is almost constant, the degree and rapidly varying. Of seven radio-scopic examinations, in six cases the stomach functionated perfectly in one case the stomach functionated slightly and six months later not at all. In two cases of the seven, the pylorus had regained in part its function. The dilated stomach sometimes retracted. But soon the symptoms of the disease recurred, at first intermittently and became constant toward the end namely digestive disturbances, pain, vomiting and hemorrhage if the tumor had been left. In some cases the patients complained of diarrhoea which is dependent upon the hypochlorid of the gastric juice which can be effectively treated.

Finally in two cases there has been noted the return of the symptoms of stenosis as result of invasion of the stomach by the neoplasm. Death occurred most often as result of progressive cachexia in other cases it resulted from the recurrence of stasis and stenosis 11 times as result of metastatic complications.

J. OLSCHKE.

Well. Statistic of Resection of the Stomach (Beitrag zur Statistik der Magenresektion). Berl. Klin. Wochenschr. 19, 3, 1, 300.

By Zentralbl. f. d. ges. Chir. 1. Grenzgeb.

Of the 800 stomach operations undertaken in the last 5 1/2 years in the clinic at Breslau there were 57 resections of the stomach, of which 49 are discussed in this paper. Among these there were fourteen cases of ulcer carcinoma which were resected because of the impossibility of making positive diagnosis. Of these three died after the operation. In 80 per

cent of the cases tumor or resistance could be felt before the operation and so a diagnosis was made. Pylorus tumors which are easily palpable give the best possibility of resection. To determine the possibility of a resection, laparotomy alone could decide. Billroth II is the method of choice. Operation was done in two steps in three cases. Two cases were cured and in the third there developed three weeks after the first operation an enlargement of the tumor to such an extent that it was not operable; therefore this procedure is not used as routine. The mortality of operation of the 135 cases operated for carcinoma is per cent. The operations were performed by twelve different operators. In 75 per cent of the cases at autopsy there was pus in the abdomen. The final results showed continued cure of cases operated for ulcer callosum. Of the cases operated for carcinoma only to 3 per cent showed lasting results. These figures can be improved only by operating more frequently than before in the earliest stages of carcinoma of the stomach.

SALZER.

Berg. The Influence of Gastro-enterostomy on Gastric and Duodenal Ulcers. *J. Am. M. Ass.* 913 ix, 23. By Surg., Gynec. & Obst.

Berg lays particular stress on the following points: Simple gastro-enterostomy can influence pyloric duodenal ulcer only when there is an attendant pyloric spasm. In the absence of the latter all food passes through the patent pylorus, even though gastro-enterostomy is present, and so the ulcerated area is not protected from trauma.

The reflux of duodenal contents into the stomach is a natural attendant on gastro-enterostomy and serves to alleviate the distressing symptom of hyperacidity but it does not favor healing of the ulcer.

3. Gastro-enterostomy will not protect against recurrence of the ulcer. Barring the question of malignant degeneration of healed or healing ulcer excision of an ulcer has no particular merit over gastro-enterostomy toward preventing recurrence or recrudescence.

4. Pylorectomy does protect against recurrence but it has attendant higher mortality. Gastro-enterostomy with pyloric exclusion favors healing of the ulcer and has the same value in preventing recurrence as has pylorectomy with the advantage over the latter of very low mortality (5 per cent against 10 to 4 per cent).

It has found the occluding ligature safe and easily applied. A heavy Paget-Reecher thread is passed behind the stomach just proximal to the antrum then threaded on curved needle and one or two slits are taken through the peritoneum and muscularis of the anterior wall of the stomach, to prevent the ligature from sliding, and on slowly tying the mucous walls of the stomach are brought together but care is heeded to avoid constricting the circulation. This operation has all the advantages and none of the disadvantages of pylorectomy. It is the

only way in which on the basis of preventing the passage of food through the patent pylorus, we can prevent the recrudescence or reformulation of gastric ulcer since with healing of ulcer after gastro-enterostomy the pyloric spasm, which causes the stomach contents to flow through the artificial opening, subsides, the pylorus opens, the artificial opening closes and food once more passes through the pylorus over the ulcer surface.

Berg has practiced this operation of pyloric exclusion many times since prior to bleeding ulcers in the pyloric region, for duodenal fistula or accidental wound of the duodenum and for simple or callous ulcer in the pyloric portion of the stomach. He has practically never seen any bad results.

L. G. DW.

Hertz. The Cause and Treatment of Certain Unfavorable After-effects of Gastro-enterostomy. *Proc. Roy. Soc. Med.*, 93, vi, 22. By Surg., Gynec. & Obst.

Hertz draws attention to some of the unfavorable after-effects of gastro-enterostomy. A very small percentage of patients upon whom gastro-enterostomy has been performed have at some later period complained of symptoms which were trivial in comparison with those of the condition for which the operation was carried out, but which were none the less sufficient to prevent the patient from regarding the result of the operation as entirely satisfactory.

The author claims that the symptoms in a considerable proportion of cases are due to: (1) Too rapid drainage of the stomach or (2) situation of the stomach above the upper level of the gastric contents. In the former the patient complains of a sensation of fullness which occurs during each meal and disappears rapidly. This sense of fullness is localized slightly lower than the former position of pain or discomfort for which the operation was performed. In some cases there is slight diarrhea, the bowels being opened after each meal and, except for the first stool passed in the day are uniform and even fluid. In this group of cases, X-ray examination reveals small, hypertonic stomach with too rapid drainage of the food into the jejunum. The jejunum is consequently distended in an abnormal way and brings about sensation of fullness. The diarrhea is mainly due to the irritation of the bowels by food which has escaped too rapidly from the stomach for efficient gastric digestion and consequently there is an absence of the normal stimulation of pancreatic secretion by hydrochloric acid in the duodenum and the food does not undergo sufficient compensatory digestion in the intestines.

Complete relief or considerable improvement occurs if the patient lies down for an hour after each meal as the stomach empties itself less rapidly in this posture. In addition the patient should be given some active pancreatic ferments at each meal to compensate for the deficiency of the normal secretion. Small doses of belladonna and cocaine given half an hour before meals are also of value.

In the second class of cases, where there was extreme dilatation of the stomach, the author noted that in the vertical position the whole of the gastric contents accumulated in the lowest part of the stomach in such a way that their upper limit was below the pylorus. In such cases nothing could leave the stomach, however strong the peristalsis, until the patient lay down. By supplying the patient with an abdominal support and making him lie down for an hour after meals on his left side complete relief was eventually obtained.

C. A. GORDON IIYR

Glaser and Kreuzfuchs. Pylorospasm (Über die Pylorospasmen). *Wochenschr. Med. Wochenschr.* 9, 1, 58. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The authors contend that the motility of the stomach is influenced not only by the gastric secretion themselves but also by the secretory conditions of those parts of the digestive tract beyond the stomach particularly by those of the duodenum (Palo Chemoresis). Because of the X-ray he studied pylorospasm in connection with the ulcer, the pyloric stenosis, the duodenal ulcer, the biliary and pancreatic diseases.

They differentiate between immediate and delayed pylorospasm. In the immediate ulcer the former occurs immediately after eating the food, but in the delayed pylorospasm the onset of this condition. The spasm is soon subsided and therefore not determined by the length of time the ingesta remain in the stomach.

On the contrary delayed spasm occurs after a delay of the duodenum, biliary passages or pancreas. It too is synchronous with the pain, but appears later stage in the digestive process. The pain depends in both instances upon the pylorospasm, its location being identical and is no way dependent upon the mechanical or chemical considerations of the organs involved as the authors point out most conclusively.

Pylorospasm and physiological pyloric reflex depend alike upon the relation between the acidity of the stomach and the alkalinity of the duodenum. The authors have formulated the relation as follows: HCl excess of alkalinity = pylorospasm. HCl equal to or less than alkalinity = open pylorus and automatic gastric motility. From the acidity alone one cannot draw any conclusions regarding pyloric action.

In man, the acidity of the stomach and the alkalinity of the pancreatic juice are at all times and under all circumstances equivalent values from a physiological standpoint.

OSCAR.

McGlaughlin. Intestinal Obstruction. Clinical Study of 181 Cases. *J. Am. Med. Ass.*, 9, 3, 12, 733. By Seng, Green, & Obst.

The author analyzes 8 cases of intestinal obstruction. He studies the clinical picture of early curable obstruction and endeavors to determine the

proper character and extent of operation when gangrene and toxemia are present.

He divides the course of obstruction into three stages: (1) the stage of onset; (2) the stage of compensation; (3) the stage of complications (local or systemic). In most cases the symptoms of the various stages merge into each other irrespective of definite periods of time.

Symptoms of onset. The most constant initial symptom is paroxysmal abdominal pain. This is present early in all cases. Pain with constipation occurred in 3 per cent of the cases. There may be diarrhea and bloody stools, especially in intussusception and intestinal tumors. The usual sequence of symptoms is pain, vomiting, and constipation. Gastric lavage does not relieve vomiting as in acute dilatation. There may be initial vomiting or simply hiccough. From statistics of operated cases the author concludes that abdominal pain alone or pain with vomiting or constipation, or both, which are not relieved by lavage and enemata are indications for immediate operation. He notes that purgatives may do harm.

Symptoms of the second stage. The most characteristic symptoms are visible peristalsis or visible distended intestinal coils. In addition, vomiting, fecal vomiting, distention (regional or general), usually with tympanites, leucocytosis, and lowered blood pressure are present. Purgation should not be given in the second stage unless the patient is prepared for operation. Immediate operation is indicated when an enema gives no result either as to bowel movement or as to relief of symptoms. In the second stage the symptoms are not relieved in thirty-nine cases, eighteen are operated and recovered, eleven out of twenty-one operated upon later died (gangrene as present).

Symptoms of the third stage. These are toxemia, gangrene, peritonitis, and altered kidney function.

Operative treatment. This varies according to the nature of the obstruction and the condition of the individual case.

The author concludes that in the first stage the best operative procedure is relief of the obstruction. The same is true in the second stage if gangrene is not present. If it is, resection is indicated, or enterostomy and resection, or simple enterostomy with the loop packed off outside the abdomen, according to the condition of the patient. In the third stage enterostomy is best, either alone or with other procedures. The first duty in this stage is to remove toxic material by opening the bowel above the obstruction.

MATTHEW J. GELPH

Whipple, Stone and Bernheim. Intestinal Obstruction. I. A Study of Toxic Substance Produced in Closed Duodenal Loops. *J. Exp. Med.* 9, 3, 271, 286. By Berg, Gynec. & Obst.

The authors have made a study of the problems of high intestinal obstruction by means of closed duodenal loops in dogs. By using closed, washed loops they were able to exclude such factors as bile,

gastric and pancreatic juices and food products, and bacterial action was minimized. The loops were so made that the circulation was not disturbed and the intestinal coats were not injured. It was found that all these dogs died in about 48 hours (none lived more than three days) with the symptoms of high intestinal obstruction — low temperature and blood pressure, diarrhea and vomiting, muscular tremors, splanchnic congestion and general collapse. The loops contained at the time of autopsy varying amounts of fluid, pasty material. When the loop was drained at the time of operation, it was found that some of the dogs lived a month or more. Others died in 10 to 3 days with typical symptoms.

The work was carried further in the study of the nature and origin of the toxic substance produced. The material from the loop after dilution, autolysis, sterilization and filtration, produces a typical toxic effect when administered to a normal dog intravenously, intraperitoneally or subcutaneously. The only difference noted is in the rapidity of the fatal toxic absorption from the latter two sites being slower. The liver seems to have no detoxicating action as dogs with Eck fistules survive no longer than those without.

No secretin was found in the duodenal fluid and the pancreatic secretion was not influenced by the injection of the material.

The authors conclude that there seems to be no escape from the conclusion that a toxic substance is formed in a closed duodenal loop and that this material is absorbed from it and causes intoxication and death.

JAMES F. CARMICHAEL

Whipple, Stone and Bernheim. Intestinal Obstruction II. A Study of the Toxic Substance Produced by the Mucosa of Closed Duodenal Loops. *J. Exp. Med.* 9: 3, 1914, 307.
By Surg., Gynec. & Obst.

This paper comprises report of series of experiments showing that toxic substance is produced by the intestinal mucosa in closed duodenal loops and can be demonstrated in it, and that this poison will not be formed when the mucosa has been destroyed by chemical means. No such poison can be demonstrated in the normal mucosa.

Blood taken from dog with a closed duodenal loop was found to be non-toxic to normal dog. Further blood taken from a dog 48 hours after it had received a fatal dose of intestinal fluid intravenously was found to be non-toxic to normal dog. This would show that the toxin must be fixed by the tissues very rapidly. No anaphylactic reaction was produced by second injection of blood from poisoned animal, showing that no foreign protein is present. The evidence that the toxic substance can be isolated from the mucosa was obtained as follows: The mucosa from dog with a closed loop was washed, then scraped off, diluted with salt solution and autolyzed with chloroform and toluol. A tolymus was allowed to continue for as long as five weeks, in one instance. The material was then

heated to 6 C., centrifuged and filtered. When given to normal dogs, intravenously, typical symptoms of intoxication were produced. When large amounts were given death occurred. No intoxication was produced when the same procedure was carried out with normal mucosa. Intestinal mucosa from a dog poisoned with duodenal loop fluid was also non-toxic.

Attempts at removing the bacterial element in the closed loops by means of washing with bichloride of mercury and other inhibiting solutions, had no effect on the appearance of toxic symptoms. It was found that, if the mucosa of the loop was destroyed by sodium fluoride, toxic substance was not formed. This was proven by the observation that no toxic effect was produced in normal dogs when the loop fluid was given intravenously. This the authors believe is the final proof that the toxic substance is elaborated by the duodenal mucosa.

It was observed that when toxic loop contents were injected into the jejunum of a normal dog no effect was produced, proving that the toxic substance is not absorbed by the normal intestinal mucosa.

JAMES F. CARMICHAEL

White, Andrews, Saunders, Lane, Harley and Colyer. Symptom in Alimentary Toxemia. *Bull. M. J.* 9: 3, 4, 137. By Surg., Gynec. & Obst.

White, in introducing the subject, said that the term Alimentary Toxemia at once showed our ignorance. Cases should be grouped according to the variety of the poison, and not according to the point of entrance of the poison. Unfortunately the present state of our knowledge this was impossible. The simplest alimentary toxemia was that due to pyothorax-alveolaria. This was capable of producing various ill effects, either by impeding mastication by the wallowing of micro-organisms, or by causing septicemia by absorption of organisms from the gums, of which he had seen several fatal cases. The question of the production of bacterial poisons in the alimentary tract was very wide one. External temperature was said to play part and some observers had stated that the intestinal contents of arctic animals were almost sterile.

Intestinal bacteria usually remained in their customary habitat but various influences might induce variations from this normal. He mentioned the case of a woman in whom lavage always showed the gastric contents to be swarming with bacillus coli.

Heiter had taught us that there were probably three groups of cases of alimentary toxemia caused by micro-organisms:

(a) The indolic, in which the probable fault was that the colon bacillus invaded the lower part of the small intestine, and the patient was unable to digest carbohydrates, and usually passed abundance of indican.

(b) The saccharo-butyric, in which the organism mostly concerned was the *B. aerogenes capsulatus*. The abnormal changes here occurred in the large intestine.

() A group combined of and b.

It was necessary to be in mind when thinking of alimentary toxemia, that the culture medium was as important as the bacteria, a good example of which fact was the improvement which followed the withdrawal of carbohydrates in cases of carbohydrate dyspepsia. Much work had been done on the action of indica and ethereal sulphates in the rumen but although excessive indican often associated with serious intestinal disturbance yet it was generally allowed that the poison producing alimentary toxemia as neither indol indican nor ethereal sulphates. M. Hanley and T. Orr had isolated creatin-destroying organisms from the alimentary canal, and found in animals another bacillus produced β -methylamylamine, a powerful poison, from histidine. This poison probably destroyed in the liver and was suggested as cause of cyclic vomiting.

White suggested that enterogenous cyanosis was form of alimentary toxemia from which much might be learned, because the chemical bodies involved in its etiology—namely hydrogen sulphide and the urates—were simple and readily investigated. Nevertheless comparison of little was known about this disease.

Lately it had been urged that much insistence that intestinal toxemia as due to intestinal stasis and the speaker thought that this was very probable true nevertheless, it must be remembered that some people are perfectly well if their bowels are only opened once a week. If the poisons that are formed, the quantity of them produced could depend upon the number of organisms, and the suitability of the medium for their growth might be so favorable that toxemia could result without any stasis.

Those who held that stasis was mechanical in origin differed as to its use and evidence deduced from X-rays must be received with caution.

The speaker considered briefly the methods of treatment and urged that the result of surgical procedure undertaken for the relief of intestinal stasis should be carefully considered and should be made the subject of the fullest possible reports.

Andrews dealt with the bacteriology of the alimentary canal, and stated that the habitual tenants of the gut were facultative aerobes, and that even strict anaerobes could grow there freely. Certain groups of bacteria had specifically adapted themselves to life in the intestine and had practically abandoned other modes of existence, as for example the B. coli group, most of the streptococci and certain anaerobes. In the healthy buccal cavity bacteria were present according to Gordon to the number of 100 millions per cubic centimeter of which at least nine tenths were streptococci. In the stomach and duodenum bacteria were extremely few and the small intestine, as long as the contents were fluid their number was not very high. In the caecum and colon the conditions for bacterial growth were very favorable and the number of

organisms per gram of normal faeces ranged between 100 and 1,000 million.

The speaker discussed the named species of flora of the alimentary canal and dealt especially with the distinctions in the varieties of streptococci met with. He could see no good evidence that it was of benefit to eat hard our testicles swarming with bacteria, many of the products of which seemed harmful to us. Bacteria were not altruists, but took advantage of the favorable conditions in the gut purely for their own good, and if we escaped harm it was solely by the evolution of various protective mechanisms.

Retention of the contents of any portion of the gut produced an abnormal bacterial flora and the speaker discussed the changes produced by infection of the gums and considered the bacteriology of the gall-bladder. In the colon, retention of the contents favored the multiplication of the normal bacteria and at the same time gave opportunity for the absorption of their toxic products which might be produced.

Andrews defined alimentary toxemia as being the absorption from the alimentary canal of chemical poisons, of known or unknown composition, in sufficient amount to cause clinical symptoms, the blood having served as a channel of distribution to the tissues which are poisoned. He mentioned the frequent slight invasions of the blood stream by organisms growing in the gut, and pointed out that his definition excluded these cases. He discussed the possible function of the thyroid gland in neutralizing the harmful effects of the absorption of toxins and mentioned the probably feeble toxic effect of the products of protein decomposition. There was possibility that excessive bacterial activity in the intestine might have a result as well as possible influence by causing destruction of substances necessary for normal tissue metabolism.

Saxenby considered the symptoms and treatment of alimentary toxemia from the medical standpoint. He spoke of vegetable and animal food poisons, mentioning phallosa, muscarine and scorpion among the former and discussing the production and effects of the ptomaines and leucotoxins among the latter. Certain foods became poisonous from the action of some principles normally present and the speaker mentioned beriberi, pellagra and scurvy in this connection. Saxenby discussed to some length the symptomatology of food poisoning, and stated that the connection of such diseases as pernicious anemia and chlorosis with abnormal conditions in the intestine as by no means proved. He did not consider that mere fecal retention caused pathological symptoms but held that constipation as not uncommon cause of chronic intestinal catarrh and that it was these inflammatory consequences that the symptoms associated with constipation must be attributed. He mentioned the various protective mechanisms at work in the body and proceeded to discuss the principles of the treatment of alimentary toxemia, which he said should be directed to prevent the further formation of poisons and to the destruc-

tion and elimination of those already present. This might be accomplished by cutting off the supply of material by reinforcing the digestive juices, by bacterial action, by drugs and by hydrotherapeutics.

He concluded that under normal conditions natural protective agencies are sufficient to shield the body from the dangers of poisons produced in, or introduced into the gut in moderate quantities. That infrequent or incomplete evacuation of the colon did not in itself cause disease but that such symptoms as arose resulted from breakdown in the protective machinery. The diet should be mixed one of both animal and vegetable composition. Finally when a toxæmia is present he held that treatment should consist in eliminating the poison present preventing further introduction, and reinforcing the natural protective agencies. Removal or excision of the colon justifiable in the presence of a native disease in its walls.

LANE discussed the surgical aspects of the condition. He held that alimentary toxæmia resulted from chronic intestinal stasis, and the consequent infection of the gastro-intestinal tract due to improper feeding in early life and subsequently to the prolonged assumption of the erect posture of the trunk. The changes that resulted in the drainage scheme are evolutionary in nature and simply mechanical in origin. Bands representing the crystallization of adhesions developed to oppose the downward displacement of the viscera. At their commencement these bands served a useful purpose, but later they tended to impair the function of the part and consequently shortened life. The effluent through any portion of the intestine could be controlled by mechanical means applied externally as, for instance by band, a membrane or an appendix, while the contents of the intestine might also be dammed back by the accumulation of material beyond. This as illustrated by the obstruction in the long pelvic colon seen so often in tuberculosis and rheumatoid arthritis in young people.

The results of stasis showed themselves in distinct ways. The mechanical results of delay in the small intestines were interference with the emptying of the duodenum, with consequent inflammation, ulceration, and, later, contraction in its first part. Consequent on this came spasm of the pylorus, with dilatation of the stomach. The strain of the heavy stomach, often increased by a loaded transverse colon induced inflammation and ulceration of the lesser curvature of the stomach at the site of greatest strain. An ascending infection of the intestine took place leading to disease of the organs, such as the pancreas and gall-bladder which opened into the gut.

Besides the mechanical changes, the chief trouble consequent on stasis was the intoxication produced by the absorption from the gut, and especially the small gut of more toxic material than could be eliminated. This intoxication produced degeneration in every tissue in the body. The effect of the poisoning shown in the heart, vessels

kidneys, and muscles, and induced a great loss of fat. The skin became thin and pigmented. The breasts also showed degenerative changes and the thyroid and other ductless glands might be affected. The general temperature was abnormal and that of the extremities markedly so. Microbic cytoæmia might be present. The cerebro-spinal system was markedly affected. The patient was depressed, stupid unfit for work, and suffered from headache and often neuralgia and neuritis. The mental condition of these cases often bordered on insanity. Changes in the organs of special sense were common.

An important effect of stasis was a lowering of the general resistance of the body which was perhaps most commonly seen in the frequent occurrence of infection of the gums. Lane did not believe that tubercle or rheumatoid arthritis could exist except in the presence of violent stasis, and adduced evidence in support of this statement.

He wished to deal with primary causes rather than end results. It was necessary in all cases of a toxic stasis resulting from stasis to improve the drainage of our bodies. Whether this could be effected sufficiently by the use of laxatives as an abdominal support and diet or whether operative treatment as required depended on the nature of the case. X-rays afforded great assistance indicating not only the rate of passage of the contents through the gut, but often the exact nature of the obstruction as well as many of the changes in the heart and aorta which were often serious complications of intoxication.

In most cases, obstruction of the ileal fluvium was at fault, and this could be dealt with by the removal of controlling appendix, by the division of an obstructing band or in other cases by fixing the divided ileum to the pelvic colon. This last method of treatment was by far the most efficient and produced marked and immediate improvement. Occasionally it was necessary to remove the large bowels as well. Lane stated that chronic intestinal stasis was subject growing very rapidly in importance and that it could not be decided merely by conjecture or previous experience but had to be dealt with by the light of hard facts as afforded by the results of operative interference.

HARLEY considered the toxins of the alimentary canal and mentioned the difficulties connected with the subject. He discussed the products occurring in the gut which might be poisonous, and mentioned the substances from which they were derived. The thickness of the epithelial cells in children and old people perhaps explained the greater frequency of toxic attacks in them. Delay in the intestines led to a marked increase of aromatic substances in the bowel, which were eliminated as aromatic sulphates and in atony or dilatation of the cæcum there was marked increase of indican in the urine. The persistence of an increased quantity of indican and aromatic sulphate in the urine was significant and these patients had a muddy complexion with lassitude and headache.

COLVER dealt with the dental aspect of the question and stated that the most serious oral sepsis were caries, and gingival disease leading to periodontal disease. He did not claim that oral sepsis was as important as intestinal sepsis, but it as a prolific source of intestinal sepsis, and more tractable and serious in its effects than the mouth-breathers. He knew no more of the gingival disease except that it was a frequent source of infection.

Krüger: Mobilization of the Cecum by a Surgical Method and Comment on Hofmann's The Functional Disconnection of the Appendix (Opere et Mobilization des Cecum et Appendicite, von Bismuth, Wien, in dem Archiv für Chirurgie, Thierd. Auschluss aus dem Wundheilungs, Centralbl. f. Chir. u. Gyn. 1905. By Zentralbl. f. d. ges. Chir. u. Gynäkol.)

The above report of Hofmann is a very important contribution to the study of the appendix and its relation to the cecum and the abdominal cavity. The appendix is a very important organ, and its removal is a very common operation. The author states that the appendix is a very important organ, and its removal is a very common operation. The author states that the appendix is a very important organ, and its removal is a very common operation. The author states that the appendix is a very important organ, and its removal is a very common operation.

One of the difficulties in the study of the appendix is the fact that it is a very important organ, and its removal is a very common operation. The author states that the appendix is a very important organ, and its removal is a very common operation. The author states that the appendix is a very important organ, and its removal is a very common operation. The author states that the appendix is a very important organ, and its removal is a very common operation.

It is also stated here that the appendix is located behind the cecum, and its removal is a very common operation. The author states that the appendix is a very important organ, and its removal is a very common operation. The author states that the appendix is a very important organ, and its removal is a very common operation. The author states that the appendix is a very important organ, and its removal is a very common operation.

Müller: The Insufficiency of Cecal Anastomosis. A Case of Permanent Opening for the Large Intestine. Cases of Occulted Carcinoma of the Rectum and Sigmoid (De l'insuffisance de l'anastomose cecale pour assurer la permanence d'un gros intestin dans les carcinomes occultes du rectum et du sigmoid). Ann. Chir. u. Gyn. 1905.

By Journal de Chirurgie.

The observation of Müller can be summed up in few lines. In a case of carcinoma of the

rectum and sigmoid in case of accidental occlusion, the emergency procedure was anastomosis. The patient recovered from the operation, but soon the intestinal anastomosis contracted, functional badly, and gas and fecal matter distended anew the intestinal canal. The cecal orifice was then enlarged, which was transformed into a new anus large enough to admit 3 fingers. In spite of this new intervention, in spite of frequent lavages of the distal end and the engorgement of the large intestine peristalsis, the distention of the colon became enormous, and the only means of saving its regular evacuation was an ileostomy performed 12 months later.

This fact confirms once more the old notion that the ileum constitutes the only real efficient treatment of inoperable rectal cancer. The cecal anastomosis still has its indications as an emergency procedure in cases of acute obstruction, but it cannot be a substitute for the regular evacuation of the big gut.

To make the ileum anus Müller prefers the procedure of Jaboulay (lat. col. incision, pulling up and everting the mucosa, which is sutured to the skin) and states (from the incision) he thinks this is better than the method of Rectus or that of making the terminal anus by complete section of the intestine and closure of the distal end. C. Le Roy.

Cohn: The Appendix in the X-ray Picture (Der Wurm in der Röntgenbild). Deutsche med. Wochenschr. 1905, No. 2, 221, 207.

By Zentralbl. f. d. ges. Chir. u. Gynäkol.

Technique of examination. Patient on back with slight rotation to the right. Patient takes barium meal in the morning. Examination begins after four hours repeated transillumination as well as roentgenograms. According to Trippel the barium filling of the appendix succeeds in all cases in which the lumen is free and its connection with the cecum not interrupted. The position of the appendix changes with the horizontal or vertical posture of the individuals. The appendix follows the movements of the cecum and makes its own movements around the cecum, regarded as a fixed point. The filling of the appendix does not occur simultaneously with that of the cecum. After 7-8 hours, and 2 times only the day after taking the meal, is the shadow of the appendix recognized, while the masses of barium can be demonstrated in the cecum often after four hours. The filling occurs through retrograde movements of the cecum. Just as regular the filling is the emptying of the contents of the appendix. We find the appendix empty while the cecum is still filled on the other hand we find it still filled when the barium meal has practically left the intestine. Trippel saw repeated filling and emptying during digestive act. Changes in the position of the organ, its varied configuration, re-recognized, a constantly abnormal form may be produced by adhesions. Constrictions, stenosis, the haustral segmentations of the cecum are physiological and are not to be interpreted as stenoses or obstructions. FRANKLIN.

Jackson Membranous Pericolicitis and Allied Conditions of the Mesocolic Region. *Ann Surg Phila.*, 9 3, 1874, 274.

By Surg., Gynec. & Obst.

In this article Jackson described in detail membranous pericolicitis. The membrane in this condition is usually a transparent, vascularized web-like structure with bright red vessels running parallel with the long axis of the ascending colon. In some instances it appears as though the membrane came

to the colon from the lateral parietal wall just above the cecum and courses upward, to disappear beneath the liver on the superior layer of the transverse mesocolon. In other instances it seems attached to the under surface of the liver. It appears as though it had begun above and descended on the colon to its termination usually just above the cecum. Cases have been recorded where it passed across and upward to the transverse colon.

The membrane does not resemble the ordinary conception of adhesion. It is never adherent to the abdominal wall nor to any contiguous loops of small intestine. Instead it resembles, more closely than anything, thin pterygium. In recent cases the membrane is quite free and produces but limited restriction to the underlying colon. In more advanced and characteristic cases it seems to bind the colon close to the posterior abdominal wall, and produces such marked angulations and convolutions of the colon as to practically produce stricture of its lumen.

Etiology. There are many theories.

Congenital. Many regard it as of congenital origin, but differ as to exact anatomical derivation.

Mechanical. Some regard it as physiological response to mechanical demand.

Inflammatory. Two general theories exist under this heading, one assuming spreading peritonitis from points of original infection without, and the other reaction from infection within the colicous gut.

The author himself inclines to the belief that varied causes may be responsible.

Symptomatology. The following symptoms combined are usually sufficient to establish definite clinical syndrome.

Pain.—This pain practically always has at some period a definite abrupt onset and is marked by periods of acute exacerbations. It is diffuse over the right side of the abdomen though oftentimes accentuated over cecum and hepatic flexure.

Tenderness.—Diffuse tenderness without any attendant right rectus rigidity.

Constipation.—Marked particularly in well developed cases.

Gastric disturbances.—Oftentimes resembles chronic gastritis or gastric ulcer.

Loss of weight and tone.—In long standing cases, patient shows general picture of intestinal auto-intoxication.

Neurasthenia.—Develops late and may be overshadowed by melancholia.

Differential Diagnosis.—Diagnosis can nearly always be made from careful study of symptoms. Additional evidence may be gleaned from use of X-ray following ingestion of bismuth. Condition must be differentiated from (1) chronic appendicitis, (2) gall bladder disease, (3) gastric ulcer, (4) disease of ovaries, (5) chronic colitis, (6) Lane's kink, (7) kidney stone.

Treatment. 1. Non-surgical.—This would involve (1) the proper drainage and the removal thereby of causative factors (2) the establishment of a correct dietary to facts of fermentation, putrefaction, and irritation (3) methods for development of normal evacuant capacity of a gut whose muscular tone is impaired or interfered with—as by massage and exercise, (4) direct medication of the colon mainly through colonic lavage aided by varied possible specific medicinal agents (5) external supports to correct malpositions and obviate stasis of gravity.

Surgical Treatment.—(1) Ileocolostomy has been used as means of short-circuiting intestines. Colon may or may not be resected. (2) Cecostomy and appendectomy have been used in some cases on the basis that membrane was result of chronic colitis. (3) Cecopexy has been advocated in cases of mobile cecum. (4) Plication of cecum is used where cecum is dilated and thinned. (5) Where angulation of flexures is marked, operation similar to Finney's proctoplasty has been advocated. (6) Membrane itself may be simply divided or removed completely.

In conclusion the author greets that judicious surgical selection from all the methods will give the best results as no one method should be followed as a routine. He further emphasized the following up of any surgical procedure by vigorous after-treatment along general lines before indicated.

R. W. Allen, M.D.

Fago Contribution to the Study of the Congenital Megacolon (Contributo allo studio sul megacolon congenito). *Gazz. d. osp. di clin. Milano*, 9 2, 1907, 300.

By Zentralbl. f. d. ges. Chir. u. i. Gynaecol.

The author shows that the above named clinical picture has improperly been called Hirschsprung's disease and in 1846 was described by Fago as such. The author describes the different types of mega colon.

Simple megacolon in which the length of the small intestine is that of the large, which is normally seven or eight to one is increased in favor of the latter.

Megacolon in which there is thickening of the entire colon in diameter as well as in the thickening of the wall. 3. Enlargement of part of the colon with or without compensatory hypertrophy and dilatation of the central section of the colon. The pathologic changes of the individual layers of the intestinal wall of these sections of the intestine are accurately described. They are explained upon embryonic, nervous, or circulatory causes. The symptomatology of the

new-born, the child, and the adult it is given. Death follows through autolysis, intestinal colic, peritonitis following perforation, intestinal occlusion or through cachexia. In more than 57 per cent of the cases the disease ends fatally. 75.6 per cent of the patients are men. The etiology of the disease is unknown, it is usually congenital. Internal treatment of the condition is useless. The author discusses the different methods of operations and advises against colostomy (artificial anus high up). Better results are obtained by ileocecectomy or the partial or total colectomy. The ideal operation is that suggested by Parlaavecchio which again gives normal anatomical relationships. **BONAI.**

Challer and Perrin. Immediate and Remote Results in Combined Operation for Cancer of the Rectum (Résultats immédiats et éloignés de l'opération combinée dans le cancer du rectum). Lyon chr. 9, 3, 11, 50. By Journal de Chirurgie.

The work of Challer and Perrin, a statistical study of much value the authors have collected all the published observations of combined operations, amputations or resections, and they have added certain number of unpublished cases belonging to Albertin, Delore, Harms, n, Lagoutte, Leclerc. As a result they present total of 80 cases, the summary of which omits the first part of their work. The following are the principal facts from these important statistics.

Immediate results. Operative mortality. The total mortality is 83 in 87 operations of which the result is known that is 44.6 per cent. If the isolated cases are eliminated and only the statistics of surgeons who have practiced an appreciable number of combined operations are used it is seen that the mortality in these statistics varies between 6.6 per cent (Joannesco) and an average of 4.8 per cent.

As is generally recognized although the difference is less striking than some statistics based on less numerous cases would lead one to believe Challer and Perrin find the operative prognosis better in woman (3 per cent) than in man (fifty-two per cent). The gravity of the operation increases progressively with age. It is practically the same amputation (43.8 per cent for 26 cases) as in resection (43.5 per cent for 6 cases). Infection (peritonitis, pelvic cellulitis, septicæmia, etc.) is the chief cause of post-operative mortality all the more as it is necessary to attribute to it the greater part of the deaths attributed to shock or collapse. The other causes of death are anuria, pulmonary complications, intestinal obstruction (3 cases) hemorrhage.

Among the complications which are not fatal but delay cure are found retention of urine, more or less prolonged, wound of the ureter (Millard) or of the bladder (Rottet) fecal fistula following gangrene of the upper end of the intestine the development of a stricture at the site of union of the two ends of the bowel (3 cases).

Lat results. The number of observations used in this connection are only eighty five. Of this number are noted fifteen recurrences and six deaths by metastases of which some have been relatively late (after 3, 5, 6 years) which again show the insignificance of the arbitrary period of three years, after which a number of authors regard operative cases as cured. Forty-one survived without recurrence from two months to three years fourteen survived without recurrences from three to twelve years the nine other cases died as a result of intercurrent diseases or without the cause of death being known (three of them had been without recurrence 3, 4, 9 years). The proportion of recurrence is greater in woman probably by reason of the lower primary mortality. The authors regard these results as clearly superior to those of their methods of excision of the rectum.

Functional results. This analysis is of interest only in connection with resection, for in amputation it is a question only of iliac or perileal anus. If resection continence has always been perfect (except in one case of Rottet) the sphincter retaining its normal function. On the other hand, there are certain number of cases with fistula, some of which have necessitated secondary suture or an anastomotic operation, and, in three cases, the union has failed and there has been necrosis of the upper end and the establishment of sacral anus.

Dr. LACHOWITZ.

Deaver. Fecal Fistula. Thorpe's Gas. 9, 3, 11, 51. By Surg., Gynec. & Obst.

The various types of fecal fistula are described, the treatment of each type is discussed, and a series of 60 cases reported.

Fecal fistulae are of two kinds, external and internal. Internal fistulae occur between the intestine and any other hollow viscus such as the bladder Fallopian tube, gall-bladder, ureter. Curious as are these conditions, they are usually the result of neglected pathology and dilatory treatment. This paper is concerned chiefly however with the external variety of fistula.

Anatomically there are two kinds of external fistula. First, those which communicate with the outside world through a tortuous tract involved in adhesions and second those in which the bowel is immediately adherent to the abdominal wall. The first variety is more apt to heal spontaneously than the second.

In the first variety the opening is usually very small and the discharge is usually very slight and often intermittent. In the second variety the discharge may be very profuse, or the entire fecal contents may discharge through the opening. This latter condition occurs, however only when there is

well marked spur which prevents the contents passing on into the distal portion of the bowel, and this condition is most frequently found in cases where artificial anus has been produced at operation.

Out of the 100 cases reported 73 were cases of appendicular abscess. This shows very strikingly the importance of appendicitis in the etiology of fecal fistula and also emphasizes the necessity of the early operative treatment of appendicitis. The average duration of the cases of appendicitis before operation was three days, far too long a time with our present means of diagnosis.

The early symptoms of fecal fistula are the intestinal symptoms of intestinal obstruction. These are paroxysmal pain, nausea, distention, inability to pass flatus freely if not at all. The pulse at its creases and the temperature rises sometimes to 104 or 105°, usually about 102° to 103°. The reaction naturally arises in the patient developing a fecal fistula or secondary abscess. As soon as the fistula is established the symptoms abate except the fever which usually lasts a few days longer. The skin about the fistula is very pale, becomes inflamed, due to the irritation from the discharges.

The treatment of fecal fistula is best carried out by leaving them alone for a considerable length of time and merely protecting them with sterile gauze. The author quotes cases which lasted for a very long time under rigorous treatment such as leeching, cauterizing, etc., but which healed with remarkable rapidity when left alone. General treatment in the way of good hygienic surroundings, good food, etc., are of great importance.

Operative treatment sometimes becomes necessary but should usually not be adopted until many months have elapsed without closure. The operative treatment consists in directing down the origin of the sinus, closing its exit from the gut and covering the closure with peritoneum. Many times it is necessary to defect the fecal current away from the vicinity of the sinus by means of a lateral anastomosis or even by resection. The degree of an obstruction distal to the location of the fistula must be determined before the operation is completed.

JAMES H. SMITH

LIVER, PANCREAS, AND SPLEEN

Smith, Morphological Changes in Tissues with Change in Environment; Changes in Gall-bladder Following Autoplastic Transplantation into Gastro-intestinal Tract. *J. Med. Research* 9 5, 1212, 300. By Surg. Gynec. & Obst.

With the development of various methods of tissue and organ transplantation the behavior of the transplanted cells under new conditions of environment has become increasingly an object of study. In this way the viability and the function of various transplanted tissues has been determined and consequently the conditions favoring, on the one hand, continued growth and on the other the ultimate destruction of such tissues, have become better understood. Smith in this article records the results of a series of experiments and of his study of the subject. He first reviews the literature of the work already done then considers the previous ob-

servations of changes in the histology of the gall-bladder in communication with the intestinal tract and lastly records the results of his own experiments. The animals which Smith used in this work were the dog, cat and opossum. The experiments aimed at studying early and late stages especially in completely transplanted gall-bladder tissue when the transfer of tissue had been made not alone to the small intestine but also into the large intestine and the stomach. The technique employed was that commonly used in the performance of anastomosis between the gall-bladder and the intestine by the suture method. In the second operation the abdomen was again opened, the cystic duct ligated and divided, and the gall-bladder severed from its attachment to the liver. The tissues of the fundus of the gall-bladder now firmly united to the intestine at the point of anastomosis, obtained an entirely satisfactory blood supply from the intestinal wall. The gall-bladder was cut down to a piece corresponding to about one third to one half of its original size. The open end of the gall-bladder was then inverted and closed by a double layer of silk sutures, so that, when the operation was completed, gall-bladder diverticulum was formed which communicated directly with the intestinal tract.

The author believes that changes in the gall-bladder after autoplastic transplantation into the gastro-intestinal tract should be regarded as tissue adaptation to new conditions of environment, of much the same order as the changes noted by Carrel and Guthrie which occurred in the wall of a vein when transplanted between the divided ends of an artery.

He finally concludes that topoplasmic transplantation of the tissues of the gall-bladder into the gastro-intestinal tract is followed by definite histological changes as a result of adaptation of the transplanted tissue to new environment, that gall-bladder tissue transplanted into the gastro-intestinal tract undergoes hypertrophy of the mucosa with development of new lymphoid tissue. When transplanted into the stomach, the hypertrophy of gall-bladder mucosa may become especially marked, and be associated with active proliferation and degeneration of the transplanted cells with mucous production.

That the increase in lymphoid tissue developed in the gall-bladder transplanted to the surface of the intestinal tract, whereas considerable decrease of lymphoid tissue occurs in gall-bladder transplanted into the sterile peritoneal cavity, affords evidence that the development of lymphoid tissue is in response to bacterial environment and possibly to other chemical or mechanical causes injurious to the tissue.

That there is no experimental evidence that a metaplasia occurs in gall-bladder tissue in fistulous communication with the intestinal tract, such as has been described as taking place in the human gall-bladder under similar conditions.

GEORGE E. BRIDGES

Van Hengel: Clinical and Experimental Studies of Cholecystectomy (Klauschke en proefonderzoekend studie over cholecystectomie) *Dissertation*, Utrecht, 9

By Zentralbl. f. d. ges. Chir. u. L. Grossberg

Regarding the eventual formation of a new gall bladder the results described by different experimenters are decidedly contradictory. Consequently the author personally experimented upon 5 rabbit and fifteen dogs with the following results. Whenever part of the cyst duct was left intact after cholecystectomy a new gall bladder formed the size of which was dependent upon the length of the duct saved. A new gall bladder never formed in any case in which the cystic duct was extirpated flush up to the ductus hepaticus. In the latter cases the larger bile ducts are markedly dilated in contradistinction to the former. There never was found the least widening of the papilla of Vater or any effect upon the general health following cholecystectomy. Nine cases reported in the literature the author found normal dilatation of the large bile ducts with no impediment in the ductus choledochus. In these cases the gall bladder function had ceased for some time previous to the operation on account of tone contraction, obliteration of the lumen, and fibrosis.

The influence of diet and medication upon the flow of bile the author studied in patients having biliary fistulae. He observed the following. White of egg diet has the greatest influence in diminishing its occurrence. Hours after the meal hence earlier than most others believe. A second maximum is reached on an average six hours after the meal. Carbohydrates have decidedly smaller and less regular influence. Oils (oil of olivum) hardly produce any very regular influence. The curves of biliary flow in these cases are very similar to those noted by Bruno. Cases having the gall bladder and the papilla of Vater intact. The author deduces from the permanent post-operative fistula that the curves indicate the amount of bile secreted in the liver and not as claimed by Bruno the amount of bile secreted into the gut. That the latter action is dependent upon the action of the sphincter of Oddi is also proven by Bruno. Chologogues had very little influence until smaller and the remedy of D. (Dose) means not any influence upon the secretion of bile. (Vivac) produced great increase of the secretion, beginning 1-3 hours, and reaching its maximum five hours after its administration. Fel bismutum had still more marked effect beginning as early one hour after administration and attaining its maximum three hours later. After 6 to 8 hours excepting several remissions, no influence was discoverable. These latter experiments prove that the bile was not only reabsorbed by the intestines and again excreted by the liver, but also that it stimulated the secretory action of the hepatic cells. As an additional proof it was found that the total amount of bile secreted under the conditions just mentioned was equal or nearly

equal to the sum of the bile normally secreted plus the quantity excreted in the feces and the urine also and that little was re-absorbed by the intestines.

The author had observed decided psychical influence upon the secretion. To study the relation

existing between biliary secretion and its excretion into the intestinal canal and the function of the sphincter of Oddi in this process, the author experimented upon two dogs. He performed a cholecystostomy in both and divided exposed the papilla of Vater and the sphincter in one. He learned from these cases that the sphincter of Oddi is of no great importance. At least it does not as Bruno says, prevent the flow of bile into the gut during fasting. The author thinks it is very evident that the secreted bile is constantly discharged into the gut as well as into the gall bladder and that the latter by occasional contractions, empties itself. Microscopically it was demonstrated that the small biliary ducts were never dilated and that there was no discharge in the hepatic duct after cholecystectomy.

The newly formed gall bladders showed a normal gall bladder contraction macroscopically and microscopically. They all had good cystic duct. The fundus in every case contained the ligature used to tie the cystic stump during operation. The canals of Luschka were absent in every case. *Abstract.*

Outerbridge: Carcinoma of the Ampulla of Vater. *Ann. Surg. Phila.* 9 3, 1914, 60

By Surg. Gynec. & Obst.

In connection with the report of a case of a small carcinoma occurring at the ampulla of Vater in a 65-year-old man, rising from the duodenal ampulla and causing enormous dilatation of the common and hepatic ducts, the author has made a analysis of cases from the literature of malignant tumor in this region. At least six different groups of cells have been described, possibly of origin from one or the other of these tumors, but owing to the close proximity of all the structures concerned it is usually very difficult to determine the exact point of origin of any given tumor. From the practical standpoint, however, this is of little moment as the symptoms produced have practically no relation to the histological area of origin.

The most common symptom of tumor of the Vaterian region is jaundice but this may in rare instances be entirely absent, due to ulceration of the central portion of the growth, with consequent failure to cause obstruction to the biliary flow. The jaundice is usually constant and progressive but may be distinctly intermittent even when obstruction is due to tumor alone. Without the association of stone, pain is present in about half the cases, it is sometimes constant, but often colicky in nature probably due to spasmodic contractions of the gall bladder. Vomiting, fever, intestinal hemorrhage, and ascites are among the less frequently associated conditions. There is no pathognomonic symptom of tumor of the ampulla of Vater and the differential diagnosis from tone in the common duct stenosis

from scar formation, chronic interstitial pancreatitis, and carcinoma of the head of the pancreas may be at times exceedingly difficult.

Tumors of this region are of comparatively short duration, usually causing death within seven months, and often much shorter time (after the first appearance of symptoms this result is probably due to cholemia, as it generally occurs before metastasis or extension of the tumor to adjacent structures has occurred). About twenty-two attempts at the radical extirpation of these tumors have been made usually by means of an incision in the anterior duodenal wall in a few instances by resection of a segment of the duodenum. There were nine operative deaths of the thirteen patients who recovered, only five are known to be alive seven months or more after operation, the longest period recorded being three and three-quarter years.

Wolff: The Possibility of Replacing the Choledoch by Implantation of the Processes Vermiformis. (Über die Möglichkeit eines Choledochersatzes durch Einplanung des Processes Vermiformis.) *Deutsche Zeitschr. f. Chir.* 9, 4, 1909, 447. By Zentralbl. f. d. ges. Chir. Grenzgeb.

On the basis of a case the author (which he describes in detail, and by communication of Lexer on the successful replacement of the urethra by means of the appendix, the author was led to study the question of substituting the process vermiformis for choledochus, such as largely destroyed. Plastic procedures from the gastrointestinal all but used in such cases are very complicated and an insufficiency of the sutures always threatened. Simpler are those operations in which rubber tube was inserted between the central and peripheral ends of the choledochus. This was either left unattended in the hope that it would be extruded into the intestine or it was led to the exterior by means of an oblique Witzel canal so that its manual removal was facilitated. Instead of the rubber tube the author attempted to implant the process vermiformis between the stumps of the choledochus, thus leaving a tissue built similarly to that of the bile passages.

The author made his experiments on dead bodies, because the anatomic relations in animals are not suitable in this respect. Since the urethra was successfully replaced by the appendix the latter could be implanted with equal success to replace the choledochus because the peritoneum has marked and rapid tendency to adhesions, which insure the healing of the transplant. Furthermore, one can lay parts of the omentum over the implanted appendix to make the success more certain. The author now describes his procedure on the cadaver.

The abdomen is opened by pararectal incision from the arch of the ribs to the umbilicus. Appendectomy follows. After resection of the choledochus to the extent of 4-6 cm., sound was introduced into the peripheral stump of the choledochus to the duodenum and the anterior wall of the latter cut

down upon over the head of the sound. A latex catheter was pulled through in retrograde fashion so that its upper end extended to the hepatics. A lateral opening is made in the catheter which comes to be one finger's breadth below the papilla in the duodenum in order to allow the bile to flow into the duodenum. If upon the appendix syringed out with salt solution was pulled over the catheter and sutured by button sutures with the peripheral end of the choledochus. Then the central end of the choledochus was sutured to the appendix. To reinforce the suture portions of omentum are laid over the operative site. The catheter was imbedded in a Witzel oblique canal and led to the exterior by special opening in the abdominal wall. In case of operation in the living naturally drainage of the operative field must be instituted. The author was able to determine in the cadaver that fluid forced in drained off into the duodenum beneath the injections were made into the gall-bladder or the large intrahepatic ducts. The suture was always closed. Operation on the cadaver lasted one hour. If the peripheral end of the choledochus cannot be found or is buried in tumor masses, the author recommends oblique suture of the appendix in the duodenum, analogous to the implantation of the ureter into the bladder.

UTTER: LXX

Propping Regeneration of the Cystic Duct Following the Insertion of T-tube. (Überproppung des Choledochus nach Einlegen eines T-Rohrs.) *Brit. Med. Chir. u. J. Grenzgeb.* By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

After a cholecystectomy an inflammatory stricture of the supra-duodena part of the cystic duct formed which led to the obliteration of the passages. In a second operation, the gall passages above and below the obliterating part were opened and the defect between them, a distance of about 4 centimeters, was bridged by the branches of a T rubber hose which was removed after three weeks. One week later the wound healed completely. After few weeks kistern gain developed which after two and one half years forced third operation to be undertaken in which the new formed cystic duct as found to be entirely patent and normal so that any one not knowing of the previous defect would not have been able to detect it. In the territory of the hepatic duct there was, however, a new stenosis which again was healed by the introduction of a T tube.

In second case T tube was used to heal a retro-duodenal defect in such manner that one branch of the T tube was introduced into the hepatic duct the other through Witzel's diagonal fistula into the duodenum. The patient died on the twelfth day from cholemic hemorrhage. At autopsy the T tube as found to be lying correctly and to be functioning. Propping regards the use of T tube in the supra-duodenal part as better than the use of a simple drain in the lower part of the cystic duct or the insertion of drain to bridge over a defect of the cystic duct. The defect in the retro-duodenal

part can be treated by the author's method or by that of Wilm which consists in the introduction of drain the hope that it will later enter the intestine and thus be gotten rid of so that of Voelcker who introduces drain through the duct in the papilla which forms due to of diagonal canal of the testis. The method of making a bridge in cases where it is necessary when the union of the shortened end of the gall passages cannot be made with the intestine is entirely rational.

MORROWAY.

Knappe. Pancreatic Hemorrhage (Die Pancreas-hämorrhagie). *Deutsche Zeitschrift für Chirurgie*, 1913, 47, 15. Zussalbi and G. Ch. i. Gernsberg.

The author conjunction with Ricks conducted some experiments upon rabbit to study of acute pancreatic hemorrhage. The succeeded in observing the pancreas and the mesentery for hours in the living animal. The result of their investigation differs from those of other investigators. The experiment lead to the following conclusions. The pancreas of the rabbit can cause hemorrhage and necrosis of fatty tissue. Dissection of the vessel it does not occur nor does hemorrhage due to laceration. The direct injection of liquid into the pancreatic duct causes permeation of it into the surrounding tissues due to increased pressure. Conclusions from experiments of this nature cannot be landing. It is furthermore found that the salts of natural pancreatic juice have the same action upon the vascular system as artificial solutions of the same percentage. Both produce acute hemorrhage due to diapedesis. Irrigation of the mesentery with sterile solution of trypan did not cause hemorrhage but laceration of the vessel and hemorrhage by diapedesis. Inactive solutions of trypan also did not cause upon the tissues neither did solution of active diastase or ferments. These experiments on those tried on rabbits showed that trypan does not attack the cells of living blood vessels and was only acting of the blood it came and hemorrhages by diapedesis. Salt solutions of active and inactive pancreatic juice as well as some other excretions and secretions of the animal body gave similar results. Knappe is of the opinion that nervous irritation may furnish the cause of hemorrhage in man, the same as in man, excessive loss of blood and poisons. He considers the innervation of the gall stone in the papilla as belonging to this type of nervous irritation. He enumerates some cases of acute pancreatic hemorrhage following trauma with simultaneously existing cholelithiasis. Knappe concludes that the etiology of pancreatic hemorrhage is not uniform. The causes may be the organ itself or may be transmitted to the gland by the nerves. The point of attack of the nervous fibers, however is unknown, as the vascular nerves are not affected. This attack in turn leads to hemorrhage and tissue necrosis.

MORROWAY.

Crohn. The Diagnosis of the Functional Activity of the Pancreatic Gland by Means of Ferment Analyses of the Duodenal Contents and of the Stools. *Ann. J. M. Sc.* 1913, 101, 303.

By Surg. Gyver & Oluf.

Until recent years the function of this organ as roughly judged by the occurrence of such a symptom as glycosuria or the appearance of bulky and fatty stool and the attempt to use the external secretion of the pancreas for diagnosis was confined to test of the stool and urine. More recently a method introduced by Baktyreff and elaborated by Volhard consisted in the introduction of a olive oil test meal into the stomach and testing it for regurgitated pancreatic ferments.

Within the last few years, Linborn, Hermet and Gross have independently suggested introducing into the duodenum catheter soft rubber tube collecting directly the pancreatic secretion.

The author's paper is founded upon the results obtained by analysis of duodenal and stool ferment in twenty-seven chosen cases. The method of obtaining the material is essentially that of Elsborg using his duodenal pump which consists of vulcanized rubber catheter one meter long and of narrow bore at one end of which is attached small perforated capsule glass operating syringe being attached to the other end. This was swallowed up to 80 cm. at eight o'clock at night, deglutition being aided by the drinking of little water. At twelve o'clock and eight o'clock 100 cc. of milk are drunk for the purpose of washing the capsule to pass the pylorus. At midnight a similar amount of milk is again administered which serves the test meal. Ten and one-half hours later the contents of the duodenum are separated the catheter being withdrawn until the mark 80 cm. is opposite the incisor teeth, when it is estimated that the capsule lies in the first part of the duodenum. The contents are separated for fifteen minutes, the volume and character of the resultant fluid being noted. The fluid withdrawn is assumed to be duodenal contents when (1) the radiograph shows the tube in situ in the duodenum or (2) if upon slowly withdrawing the tube while aspirating distinct difference is noted between the contents obtained at the point marked 80 cm. and the contents withdrawn after the nasal capsule is left suddenly to enter the larger cavity of the stomach.

With the capsule in the duodenum one obtains in the course of five minutes 10 to 100 cc. of golden yellow slightly acid or neutral rather acid fluid of more or less opalescent hue. The acidity in normal cases is 1 to 20 (acidity per cent). Chemical methods having obtained the contents of the first part of the duodenum the presence and quantitative strength of the ferments is estimated. The fluid after dilution with twice as much distilled water is divided into two parts one being kept acid, the other being made slightly alkaline with one-tenth normal sodium hydroxide the first portion serving for mylase and lipase tests the other for protease.

The stool A 4 to 50 diffusion of stool in slightly distilled water was used as a basis for the estimation. For amylase the Hark modification of the Wohlgrenth method was used.

For lipase and protease the same as in the test with duodenal contents.

The author gives technical discussion of the tests considering (1) the method of obtaining the duodenal contents (2) the identity of the mycolytic ferment (3) the preservation of the proteolytic ferment (4) the preservation of the proteolytic ferment (5) the identity of the proteolytic ferment. A table showing results of the different tests made of the duodenal contents of normal persons shows that normal average of cc of duodenal juice hydrolyzes 14 cc of a 1 per cent starch solution in one hour.

For lipase Normal average of duodenal contents requires 96 cc tenth normal N OH after 24 hours.

For casein test Normal average duodenal contents in diffusion of 1666 digest cc of 10 per cent casein solution.

In the study of this table it is found that quantitative test of the strength of the pancreatic contents from the duodenum of normal man varies within wide limits. In all but one instance three were found in an average state the one being lipase. With these findings as a basis, the author made test in pathological cases, finding in series of hospital cases confirmed by operation, that the ferment in the duodenum is inactive excepting one case examined before operation—this showed the absence of amylase and lipase. At operation the head of the pancreas was infiltrated and swollen to a marked degree.

In case of acute pancreatitis the ferments are absent except a faint trace of lipase the stool giving the same results. In this case an abscess involved the body of the organ. Another case examined showed absence of the ferments which several weeks later returned. Autopsy showed massive necrosis involving the duodenum and head of the pancreas. Here the ducts of the pancreas had evidently been occluded for some time then for some unknown reason the obstruction had been partially relieved and excretion established.

From study of cases of diabetes mellitus the author concludes that in all probability the external secretion of the pancreas plays no rôle in the pathology of the disease. This, however, should not be interpreted to exclude chronic pancreatitis with changes in the islets of Langerhans as no idea of the internal secretion of the pancreas can be obtained by these analyses. In these experiments, the author holds that crepain even though present, is never of sufficient strength to interfere with these analyses. The author holds that these analyses are of value in diagnosing the potency of the pancreatic ducts but that more experience is necessary to determine their value in diagnosis of functional activity of the gland. H. A. FORR.

Deaver and Pfeiffer Pancreatic and Peripancreatic Lymphangitis. *J. Am. Surg. Ass.* 9: 3, May. By Surg. Gynec. & Obst.

The authors believe that the pancreatic ducts have been given undue prominence as a path of infection to the pancreas. It seems more than probable that considerable proportion of the pancreatic swellings observed during the course of operation, particularly in connection with biliary disease, are the result of lymphatic infection transmitted from the gall bladder or in some cases the duodenum, and possibly others of the abdominal organs. Bartels and Franke have demonstrated lymphatic paths leading from the duodenum and gall bladder respectively which are in intimate association with the surface of the pancreas and anastomose with the intrinsic vessels of the pancreas. Peripancreatic lymphangitis and lymphadenitis are seen to be very common in biliary disease. The pancreatic lymphatics are not collected into single trunks which emerge at the hilum of the gland as is the case with most of the organs. The lymphatics of the pancreas emerge at various points, following the vascular supply. The lymphatics of the tail and body therefore constitute a separate system from those of the head. It is well known clinically that the head of the pancreas is the portion which is chiefly affected in connection with disease of the biliary tract. It is fair inference that the condition which singles out the lymphatic distribution rather than the duct distribution is more likely to have been carried by the lymphatics. In gall-bladder disease the chain of infection can sometimes be shown namely infected gall-bladder enlarged lymphatics of the neck of the gall-bladder and along the course of the gastro-hepatic omentum peripancreatic swelling and lymphadenitis and nodular swelling of the head of the pancreas. The condition when present in the pancreas may be spoken of as pancreatic lymphangitis in its early stages the edema is due to congestion, edema and absorbable cellular exudate these changes have not been recorded by pathologists because of the rarity of the material and the autopsy table and also because the post-mortem digestion of the pancreas renders such changes inconspicuous. When the source of infection is removed the pancreatic condition subsides in the same manner as lymphangitis elsewhere in the body. If not relieved, it seems probable that serious damage to the parenchyma with chronic interstitial changes may occur.

Mayo Surgery of the Pancreas. I. Injuries to the Pancreas in the Course of Operations on the Stomach. II. Injuries to the Pancreas in the Course of Operations on the Spleen. III. Resection of Half of the Pancreas for Tumor. *J. Am. Surg. Ass.* 9: 3, May.

By Surg., Gynec. & Obst.

The pancreas is usually fixed in position though it may be more or less movable in the body and tail. It has no true capsule, but when irritated capsule

quickly forms from the peritoneum and those tissues derived from the peritoneum. Access to the pancreas for operative purposes is usually best obtained through the gastro-colic omentum, dividing the stomach posteriorly and the transverse colon, and dividing the greater omentum. In three hundred and twenty-eight cases of pancreatic resection of the stomach for cancer there was

average mortality of seven per cent. There were eight per cent. which had pancreatic attachments resulting in injury to the pancreas, about one-third of the number of these operations, however, as the main pancreatic duct is healed usually by superficial peritonitis removed from the surface of the point where the pancreas has adhered to the diseased stomach. The lower end of the duodenum is implanted in the cavitation in the pancreas, each with about leakage following.

Ukers of the posterior wall of the stomach often perforate and become attached to the pancreas, thus forming extra-intra-peritoneal ulcers. Such ulcers must be sutured closed. The pancreatic tissue leaving no remnant of infection and portion of the gastro-hepatic or gastro-colic omentum mislabeled and fastened into the injured pancreas.

If the course of the splenic vessels the tail of the pancreas is then slowly incorporated into the peritoneum of the spleen, sutured three times. One about one-third of the tail of the pancreas, as attached to the removed spleen, and the pancreatic duct is placed visible by tied stump. The stump is covered by peritoneal tissue, drain attached and dropped back in position. A drainage followed. The patient recovered. In the second case the tail of the pancreas was tied in the pedicle about one-third from the top. The stump was allowed to drop into the cavity. The patient recovered. In the third case the spleen was of great size and the splenic artery thrombotic and during operative manipulations it necessary to place double ligatures around the entire body of the pancreas about three inches from the tail including the splenic vessels, because the artery was tied close to it through. The pancreatic tissues are considerably rushed, the ligament as pulled tight. The hemorrhage was immediately controlled but to insure greater safety second ligature was applied one inch higher on the right. The patient recovered.

III. Resection of the pancreas for tumor occurs but rarely. One case the tail and body of the pancreas (45 inches in all) was removed for tumor. Patient recovered. Flannery report collection of seventeen cases including one of his own. These with the one in the Mayo Clinic make eighteen cases in which there were ten recoveries and eight deaths.

Pratt and Murphy Pancreatic Transplantations
1. The Spleen. J. E. P. M. 5, 1914, 5.

By Surg. G. McC. & Obit.

Pratt and Murphy transplanted lot of pancreatic tissue into the spleen in order to study the outcome

of the transplanted tissue and the effect of these transplantations in preventing the occurrence of glycosuria.

It is well known that total extirpation of the pancreas produces rapidly fatal diabetes, but that this is prevented if a piece of the tail of the pancreas is placed in the abdominal wall and its blood supply carefully preserved. It has been maintained, however, that this experiment does not disprove the eugenic hypothesis.

It was found by the authors that pancreatic transplants to the spleen underwent rapid autolysis. In 5 of the 9 animals examined 8 hours to 318 days

after transplantation no pancreatic tissue was found. In one dog clots were found 3 days after transplantation. In the other 3 animals in which pancreatic tissue was found the animals lived 8 hours to 8 days after operation. One experiment as performed in which the blood vessels of the transplanted portion were left intact at the time and tied off 4 days later. This dog lived 87 days after this was done. Island of Langerhans are found in the nodule of pancreatic tissue remaining. The dog did not develop a permanent glycosuria, but the sugar tolerance was much lowered.

J. M. F. CANNON.

MISCELLANEOUS

Critique Relation Between Blood Pressure and the Prognosis in Abdominal Operations. T. M. Green. In: 9, 1911.

By Surg. G. McC. & Obit.

The relation between the blood pressure and the prognosis in abdominal operations is a well known extremes viz. a extremely low blood pressure and a extremely high blood pressure. Provided the heart is normal, can now control the low pressure phase by transfusion of blood, by mechanical means or by saline solution. The high blood pressure is far more difficult to control because it is difficult to control the factors that produce this condition. If there is cardiovascular disease due to infection or to atherosclerosis may have little effect though there is type of cardiovascular disease that is controlled by nitroglycerine. It is not yet reduced the blood pressure by bleeding and aside from nitroglycerine and hyaline measures there are no other remedies. Whether the blood pressure be abnormally high or abnormally low the patient is more likely to have complications—such as thromboses, emboli, pneumonia, sepsis—indeed the abnormal blood pressure plays but the hands of the usual dangers and complications of abdominal operations.

Could the operation be so performed that the nervous system could remain injured the blood pressure unaltered, the maximum degree of safety could be reached. The author found this could be done on the principle of non-association.

SURGERY OF THE EXTREMITIES

DISEASES OF THE BONES, JOINTS, ETC.

Wetherill Th Growth the Death, and the Regeneration of Bone. *J Am Med Ass* 9 3 14, 953. By Surg. Gynec. & Obst.

The purpose of this article is to discuss the views of leading pathologists and surgeons as to the function of the periosteum in health and disease with especial reference to its power to reproduce bone. The author quotes extensively from MacCawen's book in which he attempts to prove by animal experiments that the periosteum has no osteogenic function but acts merely as a limiting membrane to the osteoblasts, thus preventing their overgrowth into the soft tissues.

The successful implantation of bone denuded of periosteum and the osseous proliferation of cells in the circumferential growth of graft en masse or from bone chips or shavings are advanced as arguments against the osteogenic power of the periosteum.

The author quotes MacCawen to the effect that small grafts placed in a gap in the continuity of bone show curve proliferation from the bone circumference each piece becoming a growing center from which sufficient osseous tissue is thrown out to fill in the gap between the various fragments of the bone brought together along with the ends of the divided shaft.

Personal cases of the author are cited demonstrating the limiting function of the epiphyseal cartilage in preventing infection from the diaphysis from reaching the epiphyseal ends of the bones.

In bearing upon his clinical observations the author quotes Murphy as saying that (1) periosteum fully detached from bone and transplanted into muscle or fatty tissue may produce bone; (2) periosteal strips elevated at one end and attached to the other, if turned out into muscle or fat, produce bone on their under surface for greater portion of their entire length; (3) bone with or without periosteum transplanted in the same individual and contacted with other living osteogenic bone at one or both ends also becomes united if asepsis has been maintained and acts as a scaffold for the production of new bone of the same size and shape. The transplanted fragment is ultimately absorbed. The graft per se is not osteogenic but osteoconductive.

Contrary to Murphy's results, MacCawen also failed to grow bone from the detached periosteum and invariably succeeded in producing new bone from transplant en masse or from shavings, the more abundant proliferation of bone also coming from the multiple small grafts. FRANKLIN DYER.

Wilson and Rosenberger The Relation of Trauma to Bone Tuberculosis. *T Am Orthop Soc* 9 3, May. By Surg., Gynec. & Obst.

Wilson and Rosenberger critically analyze the clinical and histological aspects of the relation of

trauma to bone tuberculosis. Animal experiments and clinical experience together with a review of the literature fail to reveal any logical connection between trauma and bone tuberculosis.

Histological studies are convincing that the progress in inflammation is antagonistic to tuberculosis, thus confirming the clinical observation that tuberculosis never accompanies, follows, fractures, sprains, or other severe injuries. It is purely theoretical to look for slight injuries, like bruises and contusions, because there can be no sound basis for their consideration.

The animal experiments of many investigators have clearly proved that infection has produced tuberculosis where no trauma was used and frequently demonstrated that the injured joints are less frequently involved in tuberculosis than the uninjured joints. Clinical experience proves that trauma is often trumped by its occurrence often directed attention to previously existing tuberculosis.

Infection differs from tuberculosis in section and therefore, however low the virulence of the patient and diminishes resistance becomes a potent factor in the retrograde progress of bone tuberculosis, and thus brings into conspicuous prominence a latent tuberculosis. Conversely, however, produces active circulation greater power of resistance, increased recuperative ability will induce recovery from tuberculosis by the process of walling-in.

It is impossible to determine any rational basis that trauma bears to the relation to tuberculosis than a co-incidental condition.

Fraser An Experimental Study of Bone and Joint Tuberculosis. *J Exp Med* 9 3, xlv, 662. By Surg., Gynec. & Obst.

Fraser points out in his analysis of the experiments of Schuller, Müller, Krause, Benda, Lanne, Longue, Friedrich, Pietrzkowski and Salvia that contradiction prevails, and that it is difficult, experimentally to reproduce the usual clinical phenomenon of tuberculosis in bones and joints.

In regard to the etiology and pathology of bone and joint tuberculosis, he states that experiments were performed to find out first the route of infection, second the factors governing the localization of the lesion.

Ten animals were injected with dried bacilli from one to two milligrams, and six weeks later were examined. There was found disseminated tuberculosis. The bones and joints also showed no involvement although they were given careful examination. The other route was that of ingestion of food adulterated with tubercle bacilli, the animals living six weeks. They were then killed and after examination also showed general tuberculosis, the first source of infection being in the mesentery. The bones and joints were negative as before.

This research revealed that bone and joint tuberculosis is not apt to occur after generalized infection.

In regard to the factors which governed the localization of the lesion it was necessary to infect localized areas of bone. The tibia was usually selected. The tuberculous material was injected into the medulla care being taken to prevent the tissues surrounding being infected. The human bacillus was employed. Fully developed guinea pigs and rabbits were used in the experiment. Seven guinea pigs were inoculated and lived from ten to sixty days. The examination of the infected bone showed that tuberculous osteomyelitis developed in four out of six cases. In the three negative cases the microscope failed to reveal either tuberculosis foci or if the cases there as healed tuberculous foci.

An experiment on rabbit as performed in rabbit being infected with the human bacillus and with the bovine bacillus. The infected with human bacilli showed the one slight pulmonary tuberculosis but no active tuberculosis in the bone. The other showed slight pulmonary tuberculosis and no tuberculosis of bones. The infected with bovine showed in the one no general tuberculosis but slight tuberculous osteomyelitis. The other showed the same findings.

From this was found that the human bacillus produced no osteomyelitis. The bovine bacillus causes slight lesion but never severe. The cellular action in the rabbits is so intense as to prevent general spread of the bovine type of bacillus.

Another test as made on rabbit with the human bacillus, and this time the epiphyses of the bone as bones as is seen clinically in tuberculosis of bones. Two rabbits were used, the human bacilli injected through the medullary space into the epiphyseal region care being taken not to infect any adjoining structure. After about sixty to ninety days the animals were examined. There were no general or local infections to be found.

From these experiments can be seen the great difficulty of infecting the medulla of healthy bone with tuberculosis even in the guinea pig an animal very susceptible to the infection, there is seen an inclination to recover.

The rabbit not really immune to the human bacillus has the ability to prevent the development of the infection. The bovine bacillus causes only very slight development of the disease. Clinically from this it would seem unlikely to have primary tuberculosis of cortex or medulla of bones.

To find the action of infection on joints, four rabbits were chosen, the left knee joint of each was infected. In two of the rabbits injection was made with the human bacilli. In the other two with bovine bacilli. Those infected with the human bacilli lived one hundred and twenty-eight and one hundred and thirty-eight days respectively. They were killed and examined. The test as negative as to general involvement while the joints showed chronic

or tuberculous synovitis. Those injected with the bovine bacilli lived forty-four days. In the one rabbit slight pulmonary tuberculosis was found, together with acute tuberculous synovitis of knee. The other showed the same findings.

From this experiment it is seen the greater liability of joint rather than bone involvement due possibly to more loosened cell resistance in joints than in bones and also the greater intensity of the bovine bacillus. Clinically never is there such great amount of bacilli injected as is done experimentally. I order to have gradual transmission of infection as seen clinically experiments were performed to that end.

Four rabbits were experimented upon, human bacilli were injected into the mesenteric vein. Fifteen to fifty-one days elapsed. The post mortem examination showed involvement of liver, lungs, and peritoneum but in every instance the bones and joints were not involved.

The suggestion that bone tuberculosis is due to hematogenic infection is proved likely. It is found that after direct inoculation of the heart blood via of the left ventricle in six rabbits only one instance as there found local infection and that healed in tubercle and retrogressive. All of the six cases showed, however, marked pulmonary tuberculosis. Thus, it is apparent that, without any predisposing factor circulation containing tubercle bacilli is not apt to cause local bone or joint tuberculosis.

Again, an attempt was made to produce bone and joint tuberculosis by injecting tubercle bacilli into the main vessel supplying the limb. In the experiment four rabbits were used. In every instance pulmonary tuberculosis was produced and in all cases, joints were involved — the left ankle joint and the metatarsophalangeal joint. A change in the bone surrounding the joint as secondary to the synovial tuberculosis.

It is possible to produce joint infection by inoculation of the main blood vessel with tubercle bacilli.

The preceding experiment leads to the inquiry whether the inoculation of the trient vessel carrying bacilli into the medulla will cause joint infection.

An experiment was made on two rabbits, the inoculation made into femoral artery. The main trunk of the femoral artery below the trient artery was ligated, permitting the inoculation to pass only through the trient artery into medulla. In the two rabbits tested no bone infection took place but pulmonary tuberculosis as present.

In conclusion it will be observed that it is impossible to assert that the results arrived at by experimentation correspond to those clinically seen in man, but the results of experiments will throw great light on the probable truth.

The points adduced from the research are: Direct infection of the medulla of the long bone is unlikely to lead to the development of tuberculous osteomyelitis.

3 Inoculation of the interior of a joint with tubercle bacilli readily causes tuberculosis of the synovial membrane.

3 From such an infected joint the epiphysis or metaphysis of the bone becomes diseased.

4 Infection of the arterial blood does not result in the local development of tuberculosis of the bones or joints.

5 Infection of the main artery supplying a limb leads to the development of tuberculosis disease of certain of the joints of that limb.

6 Direct infection of the uterine artery does not result in tuberculosis osteomyelitis of the bone.

June 11, 1914

Hammond Heliotherapy of Roffler's as
Adjunct to the Treatment of Bone Disease
The Orthop. Soc. 9, 3, 21
B. Surg. Gynec. & Obst.

The author shows the value of heliotherapy in the treatment of bone disease comparing results with years in which it was not used. Distinction is made between heliotherapy in which the sun is exposed and that in which the body is subjected to gradual tanning process after the method of Roffler. This results in marked stimulation of the patient as whole and also was corresponding improvement in the skin. The technique is as follows: In order to tan the skin without burning the body is exposed vertically the feet for three periods of five minutes each the first day. The second day the feet are exposed three times for ten minutes each and the legs for five minutes. I turn the thighs, abdomen, back and arms are exposed. The back of the body is exposed as well as the front. On each succeeding day the exposure of all parts treated is made five minutes longer. When the body has become uniformly tanned the daily exposure is increased to from three to seven hours. Comparing statistics of all cases treated at the Cranford Allen Hospital during 1909 and 1910 show marked improvement in 1910 when heliotherapy was used for full season. It was used for a few weeks in 1909. 1909 the average weight gain was 3 lbs. in 94 lbs. 1910 the average gain was 5.5 per cent 1909 7 per cent. Combined with outdoor life and sunbathing is an important adjunct in the treatment of these cases.

Stocker Etiology and Therapy of Osteomalacia and Rachitis (Über die Aetologie und Therapie der Osteomalacie und Rachitis) Car. Bl. f. klin. u. exp. Med. 9, 3, 11b, 57
B. Zentralbl. f. d. ges. Chir. Grenzgeb.

The author's theories assume that osteomalacia and rachitis are the results of the same pathological process — failure of calcification during the constant intimately connected opposition and resorption of newly formed osteoplastic tissue. The metabolism going on during bone formation is a function of the hormones, of which those originating

from the hypophysis, the thymus, the thyroid and the adrenals have stimulating action while those originating from the parathyroid glands have checking restraining influence. If this be true then it must be possible to induce softening of the bones by prolonged administration of parathyroid hormones in increasing strength. Of the different methods available for this experiment the author selected the one of implanting germ-glands in the periosteal tissues. After failure with rabbit the author transplanted ovaries in calf and testicles in male dog and noted the following results. Homoplastic transplantations of testicles and ovaries succeed by observing certain precautions they grow here transplanted the hormones of the sexual glands influence metabolism in such a way that bone changes occur corresponding to those in rachitis and osteomalacia the bones remaining soft. Ossification processes are impeded. The deduction from these experiments is that bone changes in rachitis and osteomalacia must be result of hypersecretion of the parathyroid glands or of some part of those glands. The author tries to prove by 11 known examples that constant high tension relationhip exist between glands having internal secretions so that predominance of one group tends to overcome the antagonistic group of the other. The endocrine glands of one group are not influenced with equal force though physiological law are not yet known. The details of the call experimented with are tropic. For therapeutic purposes no definite rules can yet be formulated, though it is believed that hormone-deficient be corrected surgically by replacing the element lacking. Cures were effected by extract of the suprarenal gland of the hypophysis and thyroid glands. In selecting the separate remedial extract or as yet the suprarenal gland. The same conditions bear the treatment with the milk or serum of castrated animals except that the latter are more difficult to procure than the glandular extracts. S. 100, 101.

Murphy Osteomyelitis of the Tibia; Transplantation of Ten Inch Segment of Bone from Opposite Tibia. Surgical Clin. of John B. Murphy 9, 3, N. By Surg. Gynec. & Obst.

The patient, young woman, 19 years old, red thin, moderate build, left leg by amputation. She operated several times and the greater part of tibia removed. On admission there was an old discharging wound just above the ankle and inability to bear weight on leg.

The transplant was the longest Murphy has ever used. The incision was made along the old scar down to the ends of both the upper and lower fragments. A socket was made in the medullary canal in the upper fragment by the reamer and smaller one in internal malleolus. A piece of bone, 10 by 1 1/2 by 1 1/2 inches was removed from the crest of the other tibia and inserted in these fragments. A small wire nail bore held the transplant. The

soft tissues joined the catgut and skin with horse
hair. A plaster cast from hip to toes as put on
the foot, elevated and flexed at angle of 95
the cast with the glissade. My new put
on plaster cast about 100 g. 1 one other
[see this could be compression of the external
popliteal artery. Primary union of the wound
occurred. At time of report bone regeneration was
not using. The leg firm. The patient had
full, true, firm scales. A pass of temperate re
view after 100 g.

Kassowitz Ra hitla | th New born Rachi shen
Neuglorenen J heb / k adrah | 1 177
By Zentral (d ges. Gu | Lernsch

The paper is continuation of series of studies of the thoracic rachitis recently published in the book for Wiesner's collection. The question of the probability of the occurrence of congenital rachitis is discussed. Referring to his earlier original and contributing additional to the pathologic material he defends his standpoint that congenital rachitis and congenital rickets must be considered general rachitic symptoms and that therefore congenital rachitis does not. Wieland, however, Schmidt and the large majority of pathologic anatomists consider the increase of the osteoclastic compression of the vertebrae which is normal to the first half period of life the only dependable criterion for the diagnosis of rachitis. On the other hand, Kohn has in his school ideas that the rachitis especially the beginning rachitis of hyperostosis of inflammatory new formation of blood vessel in marrow cartilage and perosteum as well as signs of absorption in the remaining portions of the osteostructure. The former omits the basis of Kohn in the new formed osseous tissue the primary step in the rachitic process the latter interprets this as result of the abnormal new osseous calcification or ossification of these structures. The pathologic osteoid is deceptive diagnostic sign of rachitis as it may be entirely absent in progressing case even of the greatest type. With such contrary opinion of the conception of rachitis it is not to be wondered that the hangers of the skeleton of the newborn are by Wieland considered physiologic or pathologic but not as rachitic and re designated as specific rachitic Kohn's rachitis.

Coley Peritoneal Round-Cellled Sarcoma of the
 Femur Involving Two Thirds of the Shaft
 with Extensive Multiple Metastases. T. 10.
 Surg. by J. H. B. By Surg. Gyner & Obs.

Coley reported a case of periosteal round-celled sarcoma of the femur in a living 10-year-old child. The extensive multiple metastases apparently cured by the mixed toxins of erysipelas and bacillus prodigiosus. In about ten years later malignant tumor—sarcoma and epithelioma—developed in the thigh. The site of old X-ray dermatitis.

The case was believed unique in being the only one on record of periosteal round-cell sarcoma of the femur with metastases cured by x-ray method of treatment. In February 1906 the involvement of the femur was so great (it thickened the shaft) that hip-joint amputation was strongly advised, but refused. An exploratory operation was done and the diagnosis of round-cell sarcoma confirmed by microscopical examination made by Dr. Graham and Luxton. The x-rays were used for a number of months at the point of cutting severe dermatitis. While receiving x-ray treatment a large metastatic tumor developed on the left pectoral region and larger than the size of hick head, in the lumbosacral region. The growth in the pectoral region was partially removed and while of x-ray treatment complicated the locality. X-rays were used for the large sacral tumor. The mixed toxins were begun February 1907 continued until July eight-six injections all ranging from 1 to 20 minutes are given. At the end of 8 months the hard tumor became fluctuating and was made posteriorly through the skin, discharges of pus of broken-down necrotic material evacuated. The patient made complete recovery except for the dermatitis of the thigh which persisted during the following ten years. In May 1910 small epithelioma developed at the site of the slight dermatitis in the pectoral region. In October the dermatitis of the thigh caused by the x-rays underwent extensive changes and degeneration. The tumor grew with great rapidity. An exploratory operation was done on November 7, 1910 and the tumor removed examined by Welch and Ewing as also by Clark. The specimen examined by Welch proved it to be round-cell sarcoma. The edge of the specimen showed structure which resembled true epitheliomatous growth superimposed upon the sarcoma. Ewing's specimen showed spindle-celled sarcoma (Clark epithelioma of the basal-cell type). The patient grew more rapidly and on January 2d finally consented to amputation which had been advised as soon as the diagnosis was made. At this time he was extremely emaciated the blood count showed 15 per cent hemoglobin, but despite his weakened condition he stood the amputation well. Death occurred two weeks later apparently from general malnutrition.

A careful study of the entire specimen by both Welch and Ewing showed 1 distinct type of tumor side by side on 1 typical epithelioma of the other sarcoma. Section of the bone showed there had formed in the medullary cavity of the femur, about distance from the condyle, circumscribed tumor measuring 5 cm. Microscopical examination showed the tumor to be squamous-celled epithelioma, interpreted by both Welch and Ewing as metastasizing from the lesion in the skin or mucosa. Inasmuch as the periosteal tumor did not involve the muscle and the later tumor did not invade the bone or perosteum, Coley believed that the later tumor

development was entirely independent of the primary growth of ten years previously. This was also the opinion of Welch and Ewing who thought that the sarcomatous tumor might possibly be regarded as a re-lighting of the old bone sarcoma of ten years ago some of the cells of the former tumor having remained latent during this long period. Ewing was unwilling to express definite opinion without comparing the histological structure of the later tumor with the earlier. But even with such an interpretation, i. e., that the late tumor was a recrudescence of the earlier growth, Welch stated that the efficacy of the treatment by your method was strikingly manifested by the history of the case and so it seems to me to have brought about the disappearance of the tumor and to have kept the growth in check for ten years, and then to have the same (presumably) type of growth reappear in the original site—and this markedly malignant type of sarcoma—is a unique chain of events which is perhaps more convincing than the disappearance of a tumor without a later return.

Coley stated that as far as he knew there was only one other case in which two types of malignant tumors (sarcoma and carcinoma) had occurred following X-ray exposure in which the diagnosis was proven by histological examination, but that he knew of no other case in which the tumor had developed such a long period after the exposure.

Marshall A Collection of Facts, Ideas, and Theories Relating to the Disease Element that Contribute to Success in Treatment of Joint Diseases. *Boston M & S J.* 93 Davis, 385 By Serg. Gyner & Obst.

The author believes definite relationships exist between visceral ptosis and arthritis, and as with tuberculous gonorrhea and pyogenic infections which are accompanied only in comparatively small percentage of cases with joint involvements so also with visceral ptosis, articular changes are not always observed.

The primary causes of pathological changes in joints brought on by visceral ptosis are to be found in bacterial decompositions within the stomach, intestines. Intestinal bacterial products accumulate in the circulating blood from excessive absorptions from the lumen of the digestive canal, or through defective eliminations by the kidneys, or from defective transformations and destructions by tissues of the body or as the result of these combined influences.

When quantities of bacterial substances in circulation increase beyond certain limits, there are slowly developing pathological changes induced in the body tissues. The changes vary according to relatively variable resistances of different persons, tissues, and are observed typically as periarthritic swellings, synovial effusions, anemias, enlargement of lymph nodes, losses of muscular tone, etc.

The muscular walls and connective tissue supports of the stomach and intestines probably are acted

upon also by these same circulating bacterial products with slight resultant deteriorations. The mechanical influence of distensions and weight of food accumulations together with the harmful vascular influence produce anatomical abnormalities and saggings.

Visceral ptosis may have their signs for example ptosis following pregnancies and after abdominal operations, etc. It may be present in extreme degree without arthritis and without signs of intestinal toxæmia at times when physiologic functions of the stomach and intestines remain normal in spite of abnormal anatomic relations. Anatomic irregularities, however predispose to functional ones, and sooner or later toxæmia are likely to develop. Then the small proportion of persons with non-resistant joints show articular changes. Ptosis should be considered a predisposing factor in the development of these cases of arthritis, and the primary cause recognized in the bacterial products which may produce both lesions of the joints and saggings of the viscera.

Ordinary harmless products from bacteria constantly present in the alimentary tract are sufficient to account for symptoms and changes observed, their injurious influence being due to excessive amounts in circulation rather than their unusual toxic nature. All normal products of tissue metabolism presumably produce harmful symptoms when retained by the organism in too great proportions, as in uræmia, etc. Harmless intestinal bacterial substances probably are not harmless in all proportions. No single element in the circulating blood can be decreased or increased indefinitely without upsetting healthy vascular proportions and normal functions of the tissues. Emphasis is laid upon quantitative abnormalities among normal vascular constituents as causes of obscure pathological changes in contrast to the more easily remembered active toxins of certain pathogenic bacteria and other introduced poisons.

Gout is compared with mild intestinal toxæmia—it represents the effect of excessive quantities of circulating urates, normal products of tissue metabolism, upon joints, kidneys, alimentary tract, nervous system, etc. While mild intestinal toxæmia shows analogous effects of normal products from ordinarily harmless bacterial growths in the intestine when these substances are present in the blood in irritating amounts.

The condition of the blood cannot be told from the degree of intestinal fermentations and putrefactions alone nor from the quantities of intestinal bacterial products in the urine. It depends upon the ratio between absorption and eliminations, and not upon either one independently. Scanty quantities in the urine may be associated with excessive amounts in the circulation when the kidneys are weak and excessive quantities in the urine may exist with low concentrations in the blood when there are excessive intestinal absorptions and large vigorous kidneys simultaneously excreting rapidly.

A similar state of affairs holds with gout with regard to concentrations of urates in blood and urine.

Finally concentrations of circulation, which are of more importance than excessive degrees alone of intestinal putrefactions or of corresponding formations of urates do not themselves alone determine the development of tissue lesions. Development of pathological changes depends upon the ratio between the vitality of the tissues in question and the degree of irritation produced by circulating substances. When tissue vitality is low small proportions of irritants in the blood may cause pathological changes when vital resistances are high, large quantities of vascular irritants may produce no apparent effects.

Bier: The Treatment of Tuberculosis of the Joint (Behandlung der Gelenktuberkulose). *Deutscher Chir. Kong.* 93.

B. Zentralbl. f. d. ges. Chir. (Leipzig).

Bier demonstrates large number of patients, suffering from tuberculosis of the hip joint in whom he was fortunate in obtaining excellent results maintaining the mobility of the joints affected. He does away with fixation of the part and uses his method of passive congestion, which is carried out for twelve hours daily energetic iodine therapy complement the mechanical measures. Children receive two grams daily three times a day. By the use of iodine internally he believes that cold abscesses which otherwise frequently occur during treatment by passive congestion are prevented. A series of fifty-seven cases, but of cold abscesses are recorded. In the presence of abscess he relies upon iodine for their resorption. KERNSTADT.

Coley: Myositis Ossificans Traumatica. 4. *Surg.* 93 iv, 305. By Surg. Gynec. & Obst.

Coley reports three cases of myositis ossificans traumatica and brings out the difficulties of diagnosis from sarcoma. The etiology of the condition is still doubtful but many theories are advanced.

This condition must be differentiated from contusion, hematoma, myositis, perostitis, periarthritis, and syphilitic tumors but all these conditions can be differentiated by means of careful examination aided by good radiograph. It is sarcoma which gives rise to the greatest difficulties in diagnosis. In myositis ossificans the sharp outline, corresponding to the function of the tumor with the bone is always shown in the X-ray while in sarcoma it is less distinct except in the very early stages of the disease. In myositis ossificans the consistency is much harder than in sarcoma furthermore, it is almost always uniform in character whereas in sarcoma it is very pitted, soft in some places and harder in others, but there is never the bony hard area that is typical of myositis ossificans. Pain is rarely observed in the early stages of sarcoma but is quite marked as a rule in myositis ossificans. Joint disability is also more marked early in myositis

ossificans than in sarcoma. The absolute early diagnosis is so important that in cases of doubt the author recommends exploratory section and microscopic examination of the specimen.

Treatment in these cases depends upon an absolute diagnosis, most writers recommending extirpation of tissue at variable length of time after its appearance. Massage and early incision and evacuation of blood are recommended by the author.

R. W. McNEAL.

Murphy: Chronic Trochanteric Bursitis. *Surgical Clin. of John B. Murphy*, 93 iv, No. 4. By Surg. Gynec. & Obst.

A male aged 26 some fourteen years previous, as struck over right hip by a rock weighing 30 pounds falls on him. This caused severe pain leg, but he was not incapacitated. He suffered no inconvenience subsequently excepting that during changes of weather he had slight pain in the region of hip. In 1907 patient noticed small swelling over the right trochanteric region. This was freely movable, soft and not painful or tender. It gradually increased in size and by 1909 was as large as a baseball. During these five years the patient lost 30 pounds in weight. The tumor was then excised. It was soft and had a fleshy appearance. Patient then began to regain his weight, but three months after mass was excised, second mass appeared and patient immediately began to lose weight again. The mass steadily increased in size and four months later as large as hen egg. Last August (1909) plaster of zinc chloride were applied to the mass, and in two weeks it disappeared. The skin ruptured, and yellowish discharge followed. The discharge continued up to Oct 25th, when the fever subsided and cured. Yellowish discharge in small quantities appeared and continued to the present time. Dec. 9, 1909 patient following exposure to cold, had chill, followed by fever. The next day a pocket of pus was opened in the thigh, and the fever subsided. Patient does not complain of pain or tenderness, and has full motion in hip joint.

At operation the case proved to be a typical case of bursitis which had burrowed in all directions each side and was carefully followed to its termination, and the surface of trochanter taken off down to normal bony tumor. Curettement does no good in such cases they require careful, clean-cut dissection. Small tubular drain, deep catgut sutures, tension sutures of silk, arm gut, horsehair for skin.

Cultures from pus before operation showed *B. pyocyaneus*, which accounted for the green color. The wound discharged green pus freely for two weeks, sometimes as much as a pint daily. The drain was then removed, and three weeks later the wound had closed completely and patient left hospital. He was given four or five injections of autogenous pyocyaneus vaccine and it cured his turning off faecal. The discharge ceased completely. L. J. MINTON.

Henderson: Regeneration of the Tendons. *J. Surg. Gynec. & Obst.*
Lancet 9, 3, 1912, 75 By Surg. Gynec. & Obst.

The experiment were done on the tendo Achillis of large dogs. Photos were also taken of the results on four dogs. In the first $\frac{3}{4}$ inches of the tendon was resected and the sheath left. Nothing was used to bridge the defect. The sheath was sewn together with catgut and the leg put up in plaster of Paris, the dog being allowed to run at will in the pen. The plaster was removed at the end of 30 days and there as found the perfect anatomic restoration. In a few days the dog used the leg normally. In the second case, both the tendo and the sheath were removed. Nothing was used to bridge the defect. The same after-care was carried out in all the cases. There was no anatomic restoration but the pseudo-tendon never functionated. In the third case, one and one half inches of tendon was removed and the sheath being left. The defect was bridged with 10 strands of black linen and the sheath sutured over the space with catgut. There was anatomic and functional restoration. In the fourth dog there was removal of $\frac{1}{4}$ inches of tendon with the sheath. The defect was bridged with 10 strands of line. There was anatomic and functional restoration. In the fifth dog, pieces of linen was put through the tendon high and carried down to peroneal insertion in the heel. Cat proliferation occurred about the linen showing microscopically many giant cells, the result of the chronic irritation produced by foreign body. Microscopic sections were made in all cases but macroscopic appearance is to be relied on more to distinguish true tendo.

When sustaining most of his weight on the right foot knee extended, if the patient leaned toward his left, thick band of tissue could be felt passing from the lower and anterior part of the trochanter major upward and backward toward the iliac crest. On extending the hip this band would slide off the trochanter backward. If he twisted himself so that the right ilium bone moved forward the thickened band slipped forward on the trochanter with sharp snap which was palpable audible at several feet and the jerking movement of the band quite visible.

If the band was held backward with the fingers no snap occurred. The motions of the pelvis which have been described are equivalent to marked abduction and rotation outward of the thigh. In the recumbent position the phenomenon could not be produced. X-ray examination was negative. Diagnosis: Snapping Hip. On November 20 ether anesthesia was administered. Longitudinal incision was made over the great trochanter and correspondingly incision through the fascia lata. There was a sausage-shaped thickening of the fascia posterior to the trochanter and the great trochanter (the fascio-gluteal tract of Henley). A flap of periosteum was raised by a periosteal incision from the femur at the lower part of the trochanter major and the posterior lip of the raised fascia lata was sutured to this and the vastus externus muscle near its origin. The anterior lip of the fascia was sutured to the posterior in such manner as to slightly overlap the original line of suture. The skin wound was closed and the limb fixed in splint.

The patient was seen a month after operation. There was no snap. There was no recurrence of the snapping. The patient the right leg now feels longer than the left this of course being due to his ability to straighten the pelvis. The pain and rubbing at the crest of the pelvis has disappeared because the patient no longer bends over to the right, bringing his seventh rib in contact with the iliac crest as he formerly did.

Case: Strongly built male aged 34 April 20, 1913. About seven or eight years ago patient saw another boy creating interest by apparently voluntarily dislocating his hip and reducing it again with detectable snap. He diminished the accomplishment so much that he successfully imitated it. There was no disability except that the snap was present only when he lifted heavy weights. The phenomenon could be produced on both sides. The following is the sequence of events: Heats weight on foot, abducts thigh (or flexes pelvis to opposite side) slightly flexes knee and then band moves from behind forward over the trochanter with a sudden jerk. By reversing the motions the hip the band jumps back again to its retro-trochanteric position. The snap both when the band moves forward and backward is visible, palpable, and slightly audible. The band is not the ilio-tibial band, but is evidently the anterior margin of the gluteus maximus. It follows an oblique line from

FRACTURES AND DISLOCATIONS

Binn: Snapping Hip. *The Surg. Ann.* 9, 3, May. B. Surg. Gynec. & Obst.

Case: Male 24 years, admitted to General Hospital, November 9. Four years ago right hip caught between two railroad cars causing rupture posterior crushing. He treated at another hospital where he lay in bed five months. No splints were used. The hip was useless almost year. After recovery he was capable of doing light work.

Afterwards he had two complaints: (1) A marked rubbing pain at the crest of right ilium when he carried heavy weight. This had no relation to the occurrence of his second complaint. (2) When he jumped or carried heavy weight there was an audible and palpable snapping at the right hip which he attributed to the head of the femur becoming dislocated and which he could produce voluntarily.

Examination: When the patient leaned slightly to the right side the tip of the seventh rib touched the iliac crest causing a painful rubbing.

There was tenderness at this point. This position of bending toward the right was often assumed in endeavor to prevent snapping of the hip with its disagreeable sensation and feeling of weakness.

about an inch tensor of the posterior superior iliac spine down and anal firm rid to the outer suria of the femur 6 inches below the tip of the great trochanter. This is the location of the band just to ready to make a firm clasp. The band is about the thickness of a forefinger.

Perrin in 1900 reported a case of voluntary dislocation of the hip, but the discussion which followed it was also that the symptoms were due to the snapping of band of fascia or muscle over the trochanter.

Baron operated on one hip after the diagnosis of subgluteal bursters found no bursters but found the gluteal tendon. Out of forty-one cases collected from various sources sixteen appeared due to the muscle on fatigue and ten were either congenital or the result of trauma. The rest of the cases the right doubt if the history was not secured or he put might all be malgones (recurrent) trying to out military service etc.). In seven cases was there any degree of disability or else no disability in the rest there doubt as to disability or no history. The fact that an operation which takes the tensor margin of the gluteus maximus to the trochanter and the external isosurial preventing snapping seems also that this structure is the culprit. This notion is strengthened by Lerrain's observation that when he hooked up the fascio-gluteal tract to his finger nappa became impossible. Neither disunion of the upper fibres of the muscle gave good result probably here we have obtained such great lengthening of the tract that no tension on it possible. Possibly rupture or division of the femoral insertion may prevent retraction probably not be afraid of some of the muscle fibres might use sawing shaped a flange of the muscle about the tensor margin and so increase the possibility of the peculiar jumping of this tissue over the trochanter when he proper movements are made.

SURGERY OF THE BONES, JOINTS, ETC.

Hogorau Resection of the Leg; Method of Excising the Knee Joint when the Ligament is Extensively Involved (Die Resektion der Kniegelenke mit dem neuen Verfahren des Ligamenten-Exzisionsverfahrens). *Arch. Zool. u. J. 1901.*

By Lerrain, J. d. gen. Chir. (Grenoble).

This operation is indicated in cases of severe traumatic ankylosis, malignant tumors, etc., when the capsule of the joint is universally involved and the surrounding soft parts are involved. The vasomotor nerve bundle however must be left intact.

The method of procedure is as follows: Make longitudinal incision through the middle of the popliteal space liberate and isolate the vessels and nerves. Make two circular incisions through the

soft part at the level of the tendons of the nerve bundle. The bones are then resected on union of the tendons brought about with the aid of aluminum bronze wire. The periosteum and muscles are sutured together with silk thread. The nerve bundle must be imbedded between the muscle fibers at the base of the S-shaped circular skin suture. The patient had occasion to operate this operation on the patient's leg from a berclous pain with the leg required leg amputation. The operation resulted in good function although with some esthetic shortage. The other case suffered relapse about a month later it necessary to disarticulate the femur. The advantages of this operation are more than one. The operation gives the best result with healthy tissue. It is possible with this method to unite the cut surfaces and the bone fragment intimately and thereby are healed by first intention and firm bony union. The only disadvantage the marked shortening of the limb can hardly be considered since the only alternative of the operation consists in amputation above the knee.

Gallie Tendon Fixation, *J. Surg., Path. & Phys.* 47.

By Scott, Cyren & Chas.

The author describes original method for fixing the foot in corrected position in cases of paralytic talipes equinovarus or valgus. His first case boy of eight, had complete paralysis of both peroneals and weakness of the dorsiflexors. His result was talipes equinovarus. He first divided the tendon of the fibula, forcibly corrected and put on an ankle brace and stop-joint and strap. The deformity recurred. Then did an arthrodesis at the astragalo-calcaneal and calcaneo-cuboid joints. A lyolysis occurred but the deformity recurred. The ankle joint. Then he made an incision over the peroneal tendons, lifted the longus foot and out of its groove and buried it in a groove on the interior surface of the fibula with the tendon under tension, pulling the foot to valgus and dorsiflexion. The brevis was buried in a similar groove in the posterior surface of the external malleolus. Both were sutured with good catgut and covered with peritoneum. The foot was put up in plaster Paris for nine weeks. Fixation was so secure that the foot could not be adducted and range of ordinary motion as normal dorsiflexion, and half of plantar flexion. After allowing without brace for two months no tendency to recurrence.

Three other cases have since been operated upon. In the first case of talipes valgus, one of the last cases of the fibula anterior and posterior are anchored to the tibia after division of the peroneals, and the patient was given Whitman flat foot plate when he began to walk. As only five months have elapsed since the first operation it is too soon for definite conclusions, but the author thinks if the tendons do not stretch, the operation has advantages over others and should be further investigated. J. L. Power.

ORTHOPEDIC SURGERY

DISEASES AND DEFORMITIES OF THE SPINE

Lovett Th History of Scoliosis. *T Am Orthop Ass*, 9 3, May By Surg, Gynec & Obst.

The article deals with the salient points in the history of scoliosis from its earliest mention in the writings of Hippocrates. The mention of the affection of Hippocrates gave it its name but it was evident that it was confused with other affections of the spine, as also by Paré. Suspension in the treatment dates from the middle of the seventeenth century and the head sling from the end of that century. The affection was somewhat cleared up by André.

From the middle of the nineteenth century scoliosis attracted great attention, and vast amount as written about it. The modern progress appears to have begun with the application of plaster jackets in suspension by Sayre about 1875 and further progress was made by the use of high degrees of force by Wullstein in 1900. The result has been that treatment by forcible correction has come very much to the front in the last ten years, and is in the opinion of the author the only effective treatment in dealing with the moderate and severe grades of scoliosis.

The latter part of the article is largely a consideration of the evolution of forcible correction.

Porter Scoliosis Its Prognosis. *T Am Orthop Ass*, 9 3, May By Surg, Gynec & Obst.

The author discusses the prognosis of scoliosis without reference to the various methods of treatment under its subheads.

The cause of the deformity. He believes that the underlying cause should be given as much weight as any other factor. Causes due to defects in development of the vertebrae and ribs offer the least hope of improvement. Those due to rickets which have gone on to adolescence (those treatment those resulting from emphysema and paralysis offer bad prognosis as regards complete correction.

Cases due to static errors, such as unequal length of legs, unequal development of the pelvis, and bad habits in sitting in school have a better prognosis.

Cases due to torticollis, visual and nasal defects, levated scapulae etc. should be corrected when the cause is abolished, if the bones are not bared and fixed.

Cases due to unequal muscular development or strength are the most hopeful.

Age. Looney H says. Generally speaking the earlier the deformity develops, if it goes on for several years without treatment the worse the prognosis but here the deformity in young children is detected early and given prompt treatment should expect excellent and speed results.

3. Age of the patient. Next to the etiology this is the most important factor. The longer the period of growth and development the better treatment can

be carried out, the better. The greatest successes are usually found in patients between the ages of two and twenty. In patient past middle life a deformity which has not changed in many years may grow worse from trophic changes in the bones and joint.

4. Type of deformity. Simple total curves offer more hope than compound ones. The fewer the curves and the less the rotation the better the prognosis, provided they are below the cervico-dorsal region.

5. The patient. Personal factors, such as temperament, occupation, intelligence, general health etc. have very marked bearing upon prognosis. An alert optimistic interested patient will do better than phlegmatic depressed and weak willed one. Occupations which require constant exercise in abnormal positions to give persistence in normal one interfere with success of treatment. Obesity counts against successful treatment.

6. Incidental benefits of treatment. The improvement of the scoliosis almost invariably results in improvement of the general health.

The author cites several cases to illustrate the points referred to and also calls attention to the exceptions to the rule which are occasionally seen under almost all the conditions mentioned.

Little Some Recent Advances in the Treatment of Scoliosis. *Clin J*, 9 3, 2, 1909.

By Surg, Gynec. & Obst.

After discussing briefly the anatomical and mechanical changes that take place in the spine in scoliosis, and referring to the various methods of treatment that have been in vogue since the seventeenth century Little describes the method advocated by Abbott in June, 1909. Since then he has treated several cases and he reports one, a case of 15 years of age with dorsal rotation of 3 degrees which was treated with four plaster of Paris jackets. The first was applied July 6, 1909 and the last moved on January 5, 1910, little over six months. The rotation was completely cured in the dorsal spine but a slight fullness remained in the left lumbar region.

As regards the value of this method compared with those previously in use he says: "I have now had enough experience of it to be able to say that it is at least in my opinion a very valuable innovation, and that I have already been able to achieve more definite improvement amounting sometimes to practical cure than with any other treatment which I have tried."

Whatever may be the final verdict of the profession as to the extent to which Abbott's method will cure severe scoliosis there can I feel sure be little doubt but that he has made a considerable advance — an advance in my opinion greater than any other made in the treatment of

Abbott: Movements or Positions of the Normal Spine and Their Relation to Lateral Curvature. *T. Am. Orthop. Ass.* 9:3, May 1917. By Surg. Gynec. & Obst.

The author states that the movements of the spine are many and are like those of a very flexible body. Although child spine is more flexible the same changes may occur in the adult. More limited degree passive motion is more important as the muscles seldom produce curvature.

A division of the spine into segments is not as important as the relations of its parts in different positions. There are five primary motions: flexion, extension, side bending, rotation and torsion.

Flexion of the child produces a long curve. In the great test change in the lumbar region. Extension produces the least effect in the dorsal region which does not entirely lose its posterior convexity. Lateral bending is a pure movement. Rotation is a pure movement with the greatest change at the summit of the curve. Torsion is a pure movement with the greatest change at the ends.

Compound movements: Flexion plus side bending may exist without rotation. Flexion plus extension plus torsion may exist without lateral bending. Extension plus side bending is without rotation. Extension plus rotation produces the greatest change at the end tested. In side bending plus rotation rotation may occur toward either side. In side bending plus torsion the vertebrae turn either direction.

There are four complete movements in which the spine may easily be placed: (1) flexion plus lateral bending plus rotation; (2) flexion plus lateral bending plus torsion; (3) extension plus lateral bending plus rotation; (4) extension plus lateral bending plus torsion. In flexion plus side bending plus rotation, the vertebrae may be turned with little force either way but more readily in the bodies toward the convexity. When extension is substituted the motion is in the same direction but the force needed to produce them is much greater. When torsion is substituted for rotation either flexion or extension produce similar conditions. All these positions are possible but combinations containing flexion are the easiest. This is scabrous.

It is easy to produce scoliosis artificially although it is a physiological posture which at first is assumed voluntarily but gradually becomes habitual and then lateral curvature is developed.

HAROLD A. PROSSER.

Melsenbach: A Consideration of the Correction of the Fixed Types of Lateral Curvature Complicated by Visceral Derangements, Especially Those of the Cervical Variety with Slight Modification of Abbott's Method. *T. Am. Orthop. Ass.* 9:2, May 1917.

By Surg. Gynec. & Obst.

The author says there are many problems confronting the orthopedic surgeon to-day in regard to scoliosis, and much scepticism on the part of the

general practitioner regarding the possibility of correction of this deformity. Among the things to be considered are the following: The selection of cases to be treated, the different methods to be employed in different cases, the pathologic condition of the patient before operating, the relation of curvature to disease in general, the results of correction upon the other organs and functions.

The author quotes Bakman, Thorndike and others to show that a large number of cases statistically show disease of heart, lungs, and other organs accompany scoliosis.

It is the conviction of the author that the fixed types, whether mild or severe, can be cured or improved and he has found that by careful consideration of the patient it can be corrected with a modification of the treatment. In the severer types, there is little discomfort risk incurred by the application of the Abbott jacket. He has also found that the blood pressure is not appreciably changed by the application of the jacket and cites six cases which show that the pressure before and after, and after operation remained almost constant. He also gives three cases to illustrate the beneficial effects of correction upon the general condition of the patient. Each case requires a week of each day one girl of ten years over corrected seven days. In each case the general health was markedly improved, and one the haemoglobin jumped from fifty to seventy in few weeks.

The author emphasizes the following conclusions: The supinely small haemoglobin blood pressure and rotary force, not flexion, applied the disappearance and improvement of pleurisy or gastric trouble after correction, the increase haemoglobin without medication and the tendency of cardiac lesions to improve by correction. He argues that in the severer cases where there is great deformity and derangement of the viscera, treatment should be undertaken cautiously and with view of improving the general condition of the patient also that, as a rule, no attempt should be made to build up the system by medication until after correction.

Park: A Report of Fourteen Cases of Spina Bifida and On of Sacrocaecal. *T. Am. Orthop. Ass.* 9:3, May 1917. By Surg. Gynec. & Obst.

The author reports 14 cases of spina bifida, 3 of which were in very young children, the oldest not over 35 years, and one case in a young man 3 years of age. All these cases were operated within the past ten years and represent the rather conventional method of extirpation of the sac with closure of the opening. In cases, very thin plat of celluloid or ivory was used as a rification over which the flaps were united. In the other instances more or less plastic work was done upon the vertebrae. Silver wire was used to keep as deep and buried retaining suture. Of the 14 cases, some quite suppurating 3 died as immediate or remote result of operation. In the others apparently ideal results were attained.

Park also reports one case of congenital sacrococcygeal tumor the mass being larger than the infant head, in fact nearly the size of the entire trunk. So large was it as to constitute a very serious obstacle in delivery. On the fourth day a spontaneous hemorrhage nearly exanguinated the patient and seemed to call for immediate operation. With scarcely any anesthetic the mass was dissected out with but little further loss of blood, extirpation being relatively easy although the growth extended a third the pelvis between the rectum and the sacrum. It proved to be a multicystic teratoma. This little patient died a few hours after the operation.

In closing his report the author alludes to the possibility of utilizing living bone either from the same patient, the rib, or from some other or possibly some animal source. Such fragment might be hoped to utilize the opening in the spinal canal and retained in situ by ordinary methods with every prospect of success.

Collins and Elsberg. Giant Tumors of the Conus and Cauda Equina. *The Amer. Jour. Surg.* 93, May. By Surg. Gynec. & Obst.

The authors report five cases of giant tumor of the conus and cauda equina, operated upon by Elsberg. The tumors probably originated from the pia over the roots or from the roots of the cauda equina themselves. They grew very slowly causing few symptoms until they attained large size. Finally the tumors filled up the entire lower part of the spinal canal surrounding the roots of the cauda and extended upwards upon the conus and lumbosacral cord.

The important features of the clinical histories are the following: (1) history of one or more years of (2) pain in the small of the back, sooner later extending down the one and then the other lower extremity (3) stiffness of the back in the lumbar region (4) increasing stiffness and numbness of the lower extremities, with loss of power of dorsal flexion of the foot (5) slight disturbance of the bladder and rectum.

The important features of the examination are the following: (1) rigidity of the lumbar vertebral column (2) weakness and stiffness of the lower limbs (3) paralysis of the peroneal groups of muscles (4) drop foot, one or both sides (5) hebetude of knee and ankle jerks (6) tenderness of the lower lumbar spines (7) irregular and asymmetrical sensory disturbances (8) Wassermann and X-ray negative.

The typical findings at operation consisted of large reddish brown not vascular tumor within the dura not intimately connected with the latter well encapsulated above and easily freed from the conus, but closely connected with the nerve roots below.

The peculiar features in the patients were the late appearance of bladder and rectal symptoms, the small evidence of sensory disturbances in spite of the fact that the large tumors were under much pressure within the canal.

The results of the operation interference are not very satisfactory although several of the patients were much improved. It is almost impossible to remove the growths without leaving small fragments of tumor tissue behind. The operations should be done in two stages so as to allow the tumors to be extruded from the spinal canal and thus partially freed from the nerve roots. With early diagnosis radical removal should be possible.

MALFORMATIONS AND DEFORMITIES

Kunze. A Combination of Congenital Luxation of the Head of the Radius with Little Disease (Die Kombination der angeborenen Luxation des Radiuskopfes mit der Little'schen Krankheit). *Zentralblatt für Chirurgie* 1913, 39, 2, 222, 23. By Zentralbl. f. d. ges. Chir. u. Geburtsh. d. Grenzgeb.

Three cases are reported, where Little's disease occurred simultaneously with the dislocation of the head of the radius. The following possibilities are to be considered.

The dislocation of the head of the radius may be congenital.

The condition may have definite relation to Little's disease.

The history of the patient gives no evidence to support the first view. On the contrary it appears from the history, examination and X-ray that the condition was not present at birth.

The literature shows clearly that all nerve diseases which cause spastic and paralytic disturbances come in binomial traction of certain muscles. The latter do not only cause contractures, but also bone displacements and other deformities, even dislocations may be brought about in this manner.

It is true that the cases on record generally refer to the involvement of other joints, especially the hip joint. This, however, does not prevent the author from believing that the above named cases probably occurred as sequelae of Little's disease.

It has been suggested that these dislocations should be called spastic. This is, according to the author quite appropriate in fact he advocates that all dislocations occurring with spastic and paralytic disturbances should not be dismissed by calling them congenital, but should carefully be examined as to whether they can in any way be brought in relation to the dislocation forms described above. *Excerpt.*

Willard. The Treatment of Flat Foot. *Proc. W. J.* 93, 2, 214, 437. By Surg. Gynec. & Obst.

One quarter of the deformities of the body are due to the weakness of the tarsal arch. The weight bearing portions of the foot are the heads of the metatarsals, the fifth metatarsal, cuboid and os calcis. The foot is held in position by the slinglike action of the tibialis and peroneal muscles. Any weakness of the tibialis or overaction of the peroneals will cause the foot to evert and throw the larger bare of weight-bearing on the plantar fascia. This gradually stretches and the normal outline disappears.

Weakness of the supporting muscles and venous of the foot are to be expected after prolonged weakening illnesses, injuries such as Pott's fracture, etc., and treatment of the weakened arch should be begun before symptoms appear. The main indication for treatment in the early type are: Strengthen the weakened muscles, allow foot to take its normal position, rebalance arch of strain, ut muscles take up their full work. To do this, muscular exercises and passive motions (massage) are of the greatest importance. The arch can be supported by proper shoe which has a straight last, stiff shank, and low broad heel with felt pad in instep when necessary. Steel arch support is injurious unless carefully made by an expert, and usually cause more pain, more pronation, and further weaken the muscles.

JOHN L. PORTER

Osgood: The Prevention of Foot Strain. *Boston Medical Journal*, 9:3, April, 1910.

By Surg. Gynec. & Obst.

Osgood describes simple apparatus of means for the power of the foot muscles and also that

comparative of the relative power of the adductors and abductors will often give warning of potential strain and pain, and disability in feet which present no symptoms. For five years the author and Arthur Legg independently examined various groups of medical students and others and their results were so uniform that Osgood believes that preventive treatment such as proper shoeing, exercises, douching, etc., based upon the muscle strength and walking position before actual trouble has begun will prevent its development in nearly all cases. He calls particular attention to the liability of painful feet among nurses and tabulates the result of series of whom examinations are made before symptoms developed, and the result of treatment in those who followed advice given and those who did not. He compares this table with that of 360 Wesley College students. The analysis of results as related to kind of shoes worn, previous occupation, and treatment shows distinct advantage routine examinations in institutions like schools and hospitals from standpoint of possible prophylaxis.

JOHN L. PORTER

SURGERY OF THE NERVOUS SYSTEM

Gordon: Experimental Study of Intraneural Injections of Alcohol. *The Journal of the American Medical Association*, 9:3, May.

By Surg. Gynec. & Obst.

The object of this study was to determine experimentally the direct effect of alcohol on motor, sensory, or mixed nerve. The series of dogs were used three for each. In the first series, the injection was made directly into the nerve substance after careful dissection and exposure of the nerve trunk. The supra-orbital, the facial and the sciatic nerves were then treated. The animals were kept alive nine days. Each nerve was then dissected up to its point of origin and the Gasserian ganglion for the infra-orbital, spinal ganglion for the sciatic nerve also the facial nerve in its course through the medulla were all carefully examined histologically. In the second series of experiments the same nerves, some ganglia, also medulla for facial nerve were examined microscopically after twenty-nine days of life. Besides, the clinical phenomena were carefully observed until the day of death.

Extraordinary accuracy in all experiments and uniformity with regard to the strength of alcohol (80 per cent) to the number of drops injected (5) and to the after-care of the wounds have been observed. The conclusions of the author are as follows: (1) There is difference in histological changes when alcohol is injected into motor, sensory, mixed nerve. (2) A motor nerve is considerably less influenced by the intimate contact with alcohol than sensory or mixed nerve. (3) Functional recovery follows in cases of injections into motor nerve. (4) In cases of sensory or mixed nerves, persistent sensory trophic and motor

disturbances follow injections of alcohol. (5) In cases of motor nerves, the gross nerve bundles are not affected. Only the perineural connective tissue suffers, but then condition of repair is evident in cases of long standing. (6) In cases of sensory or mixed nerves, the histological changes are very conspicuous, not only after recent injections (nine days) but also long after the first injections (twenty-nine days). Not only the nerve bundles but also their respective ganglia (Gasserian and spinal) show degenerative changes. (7) In therapeutic management of nerve sections the above difference in the susceptibility of motor and sensory nerves must be borne in mind. Otherwise irreparable damage may be done to muscles and limbs.

Mason: Recognition of Members of the Somatomotor Chain of Nerve Cells by Means of Fundamental Type of Cell Structure and the Distribution of such Cells in Certain Regions of the Mammalian Brain. *Anatomical Record*, 9:3, 67.

By Surg. Gynec. & Obst.

The article is based on the study of central nervous systems in the monkey, murine cat, and man. The material studied was fixed in 95 per cent alcohol and imbedded in paraffin. Serial sections were stained in 1 per cent aqueous solution of toluidine blue, differentiated in 95 per cent alcohol, cleared in xylol, and mounted in Canada balsam.

By the term 'somatomotor cell,' the author refers to those cells which form an integral part of the efferent nervous chain to striated muscle. The analogous, sympathetic, visceral motor cells concerned in the efferent system to the heart muscle

and smooth muscle were not studied. J. coburn is credited with emphasizing that motor cells have a distinct histology toward the peripheral end of the efferent system but toward the central end-station there is transition to the sensory type. Mixione believes that no such transition occurs.

There is no gradual transition in structure between the cells of the afferent and motor chains, and there is no indication of the beginning of motor structure in the afferent cells. Those cells in the efferent chain whose function consists exclusively or primarily in conducting impulses through the chain

cross striated muscle or between motor center characterized by common structure which differ according to the position of the cell in the motor series. The cells comprising the functional series may be recognized microscopically chiefly through the arrangement of their nuclear chromophilic substance relatively coarse granular.

This characteristic histological picture is best seen with terminal magnification (100-200 diameters) and is found most characteristically in the central nervous system of those animals standing highest in the phylogenetic series.

The author believes that the distinction of functional centers which he based more on localized cell groups has a distinct histological character that is topographical relations. B. B. BROWN.

MacCallum Hyperexcitability of Nerves I. Tet. 7. Über die Übererregbarkeit der Nerven bei Tetanie. *Mitt. d. Chirurg. d. Med. Chir.* 9, 2, 1911, 94.

B. Zentgraf, d. ges. Chir. Chirurg.

MacCallum found by his experiment that in tetany the nerves remain hyperexcitable after section. This is not due to the fact that they are so before section, but to general causes. He demonstrated furthermore that the peripheral portion of nerve separated from its ganglion cell shows in the development of tetany the same hyperexcitability as the cut nerve of the opposite side. Conduction of blood from dog suffering from tetany through the extremity of sound dog connected with the body only by the sciatic nerve, and the bone showed that this hyperexcitability is due to changes in the circulating blood. This may be due to the presence of toxins which become active by deprivation of calcium. E. A. SCHMIDT.

Dethmer and Fry The Radiotherapeutic Treatment of Tetania. *Arch. Surg.* 9, 1, 1911, 358. By Surg. Gynec. & Obst.

Five cases are reported in which X-rays were applied therapeutically for tetania which had resisted other methods of treatment. The reported results are good, pain usually decreasing after six or seven sittings, and cures resulting in several cases after a more prolonged irradiation.

A method was used which required relatively small divided doses. The rays were directed for

the most part to the zones of the lumbar region or even to the fulcrum points along the course of the nerve. Three irradiations are given to each region, an interval of a week or more elapsing between treatments. After the first series of three sittings the patient is allowed to rest for three weeks. At each sitting one third of a subcurative dose is given so that a cumulative dose of 5 H. is given on each region during a series of three sittings. An aluminum filter 5 mm. thick, was used with rays of penetration N 6 or 7 Benoist. The equivalent spark was 15 cm. and the focus distance 5 to 30 cm.

It was strongly contended that these cases are not of the pure neuropathic variety but that the tetania was due to real compression of the nerve roots. In such cases where the galvanic current and other methods have failed radiotherapy is advised.

H. J. MITCHELL.

Murphy End-Result of Operation for Brachial Paralysis. *Surg. d. Chir.* 10, 1, 1911, 913. By Surg. Gynec. & Obst.

A man of 30 on November 3, 1909, as he shot his revolver the bullet entering in the right supraclavicular fossa. Immediately after the arm dropped to the side and the shoulder fell. Admitted December 7th he was unable to raise the arm to right angle with the body or to fold the forearm on the arm. He had lost the ability to pronate and supinate or extend the hand. He was also incapable of extending the fingers, but could use all the flexor muscles. There were no sensory disturbances. It was evident, as the result of examination, that the bullet had passed through the lower portion of the brachial plexus. The upper portion of the eighth cervical was intact, and the suprascapular artery, innervating the musculocutaneous, as partially intact the greater portion as not. The median also partially intact. The ulnar was completely intact. The musculospiral was entirely out of commission. The plexus was exposed by making a double division of the clavicle and reflecting the flap inward, and it was found the cut nerve-endings were in close approximation, and, therefore the author believed that regeneration of the nerves would take place. He approximated the cut ends very carefully and ring them with fine catgut. Nothing else needed to be done. Sept. 27, 1910, he could use all the muscles except the long extensors of the fingers and thumb. Dec. 24, 1910, he had full and complete extension of fingers and thumb. All of his arm muscles were normally active. He had great strength and powerful grip.

This case establishes the definite principle that regeneration of nerves can and will take place, with full restoration of function, if the approximation is done right. The divided ends must remain in contact till regeneration can take place. One must not be discouraged at the length of time before there is a return of function. In this case two years have gone by.

L. J. MITCHELL.

Sauré and Tinel. The Operation of Franks (L'opération de Franks). *J de chir.*, 9 J. E., 29.
By Surg. Gynec. & Obst.

The authors began their study of the operation of Franks, fully realizing that numerous reports of its non-success were due to its failure in reaching the pathological points which experimental and clinical anatomic observations have determined as the seat of tabetic crises. They justify their investigation of Franks' operation on the ground of its practical utility.

The first chapter of their article is a study of the clinical anatomic basis of the operation.

Of the three essential elements of tabetic crises—pain, vomiting and secretory disturbances, the most essential to be removed is the element of pain. In a comprehensive anatomical, physiological and pathological study the authors show that the splanchnic nerve supplies to the stomach () vaso-motor fibres which come from the cord and traverse the root ganglion without interruption () sensory nerve fibres whose origin is in the spinal ganglion and which enter the cord through the posterior root. It is in the course of the posterior root that the pathological process localizes itself. Thus the irritation acts simultaneously upon the intercostal nerves and the rami communicantes of the posterior roots the union of which forms the splanchnic. The pneumogastric is likewise composed of () few sensory fibres to the stomach intermingled with those to the heart, larynx, and pharynx, and () motor fibres the reflex irritation of which produces vomiting. Thus it is evident that as the pathological process is in the posterior root it is the posterior dorsal root which must be cut or its fibres destroyed in order to do away with the pain in tabetic crises.

The second chapter deals with the operation of Franks from the anatomical and experimental view points.

The question whether or not the operation of Franks removes the spinal ganglion has been investigated.

By searching for the ganglion in the divided nerve, which gives uncertain results owing to technical difficulties. By experiments on the cadaver, which are contradictory in results. Lenche and Cotte claim that the ganglion is removed. Sicaud and LeBlanc state that it is never even injured unless the costo-transverse ligament be cut, in which case the dura is also dangerously torn by division of the nerve. Tinel and Sauré agree with the latter. The findings to topography which show (a) that the operation of Franks anatomically never reaches the root and very seldom reaches the ganglion, yet (b) it is not anatomically useless because violent division of the nerve trunk causes profound disturbances in the nerve cells through temporary chromatolysis, and it is reasonable that lesions of the ganglion cells produced in similar manner may cause or hasten the complete degeneration of the posterior root. The authors believe that this

alone explains the cures effected by the operation of Franks.

Most writers claim that the operation of Franks is simple and not dangerous. In the chapter devoted to the technique of the operation of Franks, the authors first consider the difficulties of the operation. These are, first, our insufficient knowledge of the anatomy of the posterior parts of the intercostal spaces; second, lack of precision in the number of nerves which should be divided. Physiologically from the fourth to the eleventh nerves should be divided, as the stomach derives its supply from the fourth to the tenth dorsal segments of the cord. But the authors do not quite dare to recommend division of the fourth on account of the danger to the cardiac and respiratory reflexes; third, the difficulty in following the nerve to its point of origin. The dura is seldom torn in practice, danger which LeBlanc and Sicaud have observed upon the cadaver also it is possible to go to the point of origin of the nerve. The authors technique, unlike any other makes it unnecessary to touch the costo-transverse ligaments; a good liberation of the transverse processes and an adroit manipulation of the grooved director sufficing and it is even less necessary to cut the transverse processes as recommended by Mouriquand and Cotte. Fourth, the difficulty in avoiding the pleura. It is not true, as contended, that injury to the pleura in this region is not serious.

The authors prefer to perform the operation at one sitting except () in very cachectic patients (b) when grave pneumothorax is produced () when there exists on one side chronic pulmonary lesions which render the lung of this side functionally insufficient in case of pneumothorax of the opposite side. The patient is placed face down upon the operating table with pillow under the abdomen.

The operation. The incision is made opposite to and three finger breadths from the fourth to the eleventh dorsal spines. The authors take as their landmarks: line drawn between the inner ends of the spinous processes of the scapulae as the level of the third dorsal spine and horizontal line four finger breadths below the angle of the scapulae as the level of the eleventh dorsal spine.

The second step comprises the incision of the soft parts down to the longissimus dorsi muscle. The inferior insertions of the trapezius and the latissimus dorsi are cut in the axis of the incision.

The third step is the avoidance of the posterior perforating vessels by going through the fibres of the longissimus dorsi muscle.

The fourth step lays bare the transverse processes and the levatores costarum. The separated fibres of the longissimus dorsi are strongly retracted and the fine tendons of insertion of the levatores costarum are grasped with toothed forceps and cut close to the transverse processes. The tendons are pulled aside and exposed at once the posterior intercostal spaces. Now the external intercostal muscle and the

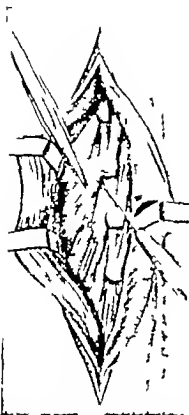


Fig. 1. Showing method of exposing and lifting the tendons of insertion of the latissimus costarum muscle from the transverse processes.

external posterior intercostal membrane alone cover the intercostal vessels and nerve.

The fifth step comprises the incision of the external intercostal muscle and the external posterior intercostal membrane. The external intercostal is often lacking posteriorly and its fibres are best so thin that it may be neglected. The pleura lies immediately beneath the fibres of the external posterior intercostal membrane which is described for the first time by Sauvé and Tisné. This membrane extends from the costo-transverse-cervical ligament internally upward and outward to the angle of the rib and has a length of about two and one-half centimeters. External to the posterior angle of the rib the intercostal vessels and nerve lie between this membrane and the intercostal muscle. Internal to the posterior angle they lie between this membrane and the pleura (Fig. 1). In spite of all that has been written to the contrary the authors claim that nothing is easier than to injure the pleura in this region. They expose the membrane by inserting a blunt dissector (F. Raboult's) at the mid-point of the intertransverse ligament



Fig. 2. 1. posterior external intercostal membrane, an. internal intercostal muscle, p. pleura. The external intercostal muscle has been completely removed.

and pushing it outward to the posterior angle of the rib. The resistant membrane upon which the dissector lies is the external posterior intercostal membrane which is exposed by cutting down upon the dissector and carefully raising the flaps (Fig. 2).

The sixth step is the exposure, section and division of the intercostal nerves. The nerve is now seen crossing diagonally the intercostal space. It is gently raised from the pleura and cut. Then the proximal cut end is grasped with a toothed forceps, and with a grooved director is separated from its bed in the intertransverse muscles and ligaments until its point of junction is reached (Fig. 3). The distal end of the nerve is next caught as deeply as possible with strong forceps. The nerve is twisted by turning the forceps and is torn out as abruptly as possible (Fig. 4). Frazer and his followers recommend slow division of the nerve (at least three minutes for each nerve) but the authors believe that the desired result, namely chromatolysis of the ganglion cells is best obtained by brusque division, which has the added advantage of saving at least thirty minutes in time of operation.

The seventh step describes the repair and suture of the different planes. After repeating the preceding maneuvers in each of the six intercostal spaces the muscular repair is easily accomplished (at six or seven catgut sutures through the mass of the longissimus down the spongerous is closed with a second row of catgut sutures and a third row of sutures closes the skin. The authors always drain the lower angle of the wound because of the known lowered resistance of tabetic to infection. If pneumothorax has been caused by opening the pleura in one of the intercostal spaces the opening is easily closed by suturing the large mass of groove muscle over this space.

The authors make a critical review of thirteen cases which they were able to collect in the literature, including their three cases. Two of these thirteen cases died from causes ascribable directly to the operation of the remaining eleven, and had

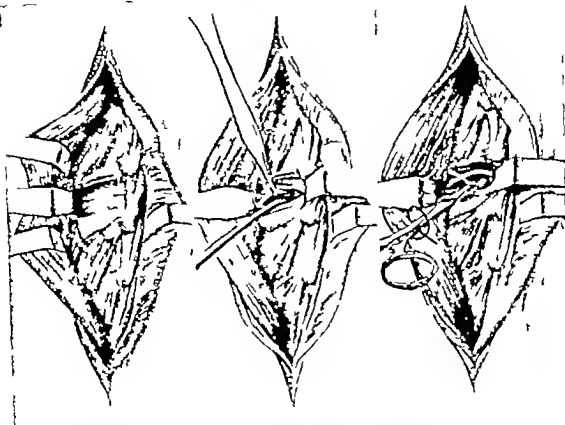


Fig. 3 Showing method of exposure of the posterior external intercostal membrane.

Fig. 4 Showing the intercostal nerve lifted from its bed

and the grooved director following it to its point of origin.

Fig. 5 Forceps applied to nerve method of twisting employed in dissection indicated by arrow

immediate relapses, three had later relapses. Five were cured but without any indication of the time elapsed since operation. One case has remained cured more than eleven months.

Comparing these results with results of other operations for the relief of tabetic crises, the authors were able to get reliable statistics only in the operation of Foerster. Their impressions are that the operation of Frank should have a mortality of about 7 per cent in spite of the 4 per cent of their collected cases. The reported cases of Foerster's operation give a mortality of 24 per cent, which the authors believe is too low because opening the subdural space alone gives a mortality considerably higher than these figures. From the point of view of efficacy the operation of Frank is incontestably inferior to that of Foerster. The former may succeed while the latter must succeed provided enough roots and ganglia are removed. The same holds true of all other operations which attack the posterior root or ganglion. In the operations of

Gulek (Sicard and Demarest, of Schoeller). But the operation of Frank is very much easier than that of Foerster which in turn is easier than that of Gulek. The operation of Sicard and Demarest ranks between that of Foerster and Gulek. In fact, after reviewing advantages and disadvantages of the operation of Frank the authors conclude that it is the least efficacious of the operations for gastric crises but nevertheless can be successful. That it is the least dangerous and much the easiest. It should not be condemned and finds its indications.

The practical questions which arise in regard to the gastric crises of tabes and which Souvé and Tinel answer in their general conclusions are:

Is it necessary to operate for the gastric crises of tabes? The crises are a symptom of irritation and a well founded objection to operative interference is the fact that the crises disappear spontaneously when the progress of the disease destroys the roots or the disease becomes arrested and the irritation ceases. As it is impossible to predict when

these 1 vor bk and non-operati res its will tak place, the authors believe that the operation is justified whe the crises re severe frequent long and leading t cachexia nd after the lapse f some months show no tendency t spo taneous egression.

Which operation should be selected If w accept the proposed pathogenesis of the crises as an irritatio in th dorsal radicles the operation of Franke is not rational alow by the operation as set forth in this article th naml communica tes nd

the extremity of the ganglion are reached Foster' operatio the operatio f Gubke and of Sicaud nd Desmarest are too dangerous to be recommended. Therefore the operation of Franke should first be tried. If it fail or if there are contraindications, Sau t and Tinel recommend simple ligation of the dorsal radicles. This procedure seems to suffice t interrupt the cde re hick gains access to the cord from the spinal root across the irritated zone and causes definite degeneration of the posterior roots. ELIAS FERNER.

DISEASES AND SURGERY OF THE SKIN AND APPENDAGES

Kornell. Free Fascia Transplantation: Experimental and Clinical Investigations (Über die freie Fascientransplantation experimentelle und klinische Untersuchungen). Dissertation, St. Petersburg 9.

By Zentralbl f d ges Chl f Göttingen

The thor has undertaken fifty experiments on dogs and cats t illustrate the pathological nd anatomical changes transplanted fascia. The experiments may be grouped three series. Thirty three experiments are concerned with th substitution of Achilles tendon defects t fascia lata. Defects of the thorax wall were covered over t el times and abdominal wall defects five times. In the first series the following conditions can be described. The fascia m f hich connects the end of th resected Achilles tendon, t first serves very reliably for good union. Thereupon the tendon defect begins t be replaced by young connective tissue which proliferates round the transplanted fascia from all sides and supplies it with blood vessels. The surrounding connective tissue gradually acquires tendinous character and at the end f the second month is distinguished from the old tendon merely by its greater richness in cells and the irregular arrangement of its fibres. Macroscopically its glistening appearance is missing and it is thicker than the normal tissue. Gradually these differences disappear. The ucel of the fascia lose their staining properties t first due t tho insufficient nutrition. At the end of the third week already the number of ucel is increased simultaneously th th vascular new formations. Transverse fascia bundles disappear after three weeks, thanks t the inactivity hile th longitudinal fibres become tendinous nd t the end of the third month all difference have disappeared. The elastic fibres are always well preserved.

In a second series (t elve experiments) defects in the wall of th thorax were covered ith free transplanted fascia. For this purpose large four-cornered defects were produced by means of rib-resection and removal of musculature nd pleura and were closed in the way given. The author who has been the first t try such experiments, has tried in this series wherever possible t give results only after long

periods. The animals are killed after t month f seven out f t elve dogs complete success as achieved. T dogs died of shock. The artificial defect measured about 6-8 cm. From this series the author draws the following conclusions. Large thoracic all defects can be closed splendidly ith freely transplanted fascia lata. The transplanted fascia is surrounded on all sides by scar tissue which nourishes the transplant. The scar tissue gradually becomes flatter nd firmer. If the pleura does not become infected no division of fascia t lung t les place. The transplant covered on its inner side ith flat pleural endothelial cells. Young connective tissue and vessels proliferate int the prefacial and endofascial layers, hich lose their primary structure. The true fascic bundles, however, do not alter their structure even after ne year. The proliferation of the elastic fibres re les maximum in 3 to 4 months. After year then mber returns t normal.

In the third series, peritoneal-muscle defect of the anterior abdominal wall ere covered ith freely transplanted fascia thereby testing Kirschner's result (s experiments). The author found that such defect can be perfectly covered ith free transplanted fascia. Even in those cases ith superficial wound infection, no bulging of the abdominal wall could be found after five months.

In the clinical part of the work there is at first critical discussion f the eight cases found in the literature. Free fascia transplantation as employed most frequently f defects of the d ra (4 times). Abdominal wall defects were closed fifteen times by this method and ankylosed joints ere mobilized thirteen times. Defects of hollow organs were closed ten times, and three times the artificial intestinal stenosis of Bugojukoff was attempted. The remainder of the cases comprise plastic operations on muscle et. The author's personal material includes eighteen cases, among hich are twelve cases of large inguinal hernias, five being recurrences. Further there was one case, respectively of hernia cruralis, hernia pulmonalis, pleural defect after stab wound, prolapsus recti (fascia ring of Brunn), cryptorchidism and ankylosis of the jaw. Noteworthy are the cases of closure of pleural

defect which succeeded splendidly. This method is applicable to all cases in which suture is not possible. It seems especially valuable after resection of tumors of the breast wall. For rectal prolapse also the fascia-plastic method of Brun is an excellent method. In cryptorchidism the author proposes the following procedure. The testicle is pulled through a 1/4 in. sized piece of fascia and the incision in the latter narrowed by suture. The fascial sack is fixed in the scrotum. Most effective is the case of complete ankylosis of the jaw according to Scharlach. By the interposition of free, transplanted fascia function is restored. This method technically is much simpler than the complicated muscle interposition according to Helfrich and von Mikulicz and is to be preferred for this reason. In the author's eighteen cases only one failure is to be recorded because of suppuration of a scrotales hernia. Muscle hernias at the site of extirpation of the fascia were not observed. The author proposes free fascia transplantation as the method of choice in scrotales hernia because of the danger of recurrence. Hesse

Stern The Grafting of Preserved Amniotic Membrane to Burned and Ulcerated Surfaces Substituting Skin Grafts. *J Am Med Ass* 9:3 15, 1913 By Surg. Gynec. & Obst.

The technique of fixing and preserving the grafts as suggested by the author by Carrel.

The freshly obtained amniotic sac in part or in its entirety is immediately placed in petrolatum after being washed of all blood in normal saline solution and dried between layers of sterile gauze. Liquid petrolatum serves well when specimen is to be cut many times and used up within a few weeks. The receptacles are stored on or near ice as soon as possible, and maintained at temperature between minus one and plus seven centigrade (30 and 44.6 F). The color and consistency remain normal for several weeks, the microscopical appearance of the sterns unchanged for seven to ten months.

Surfaces are prepared as carefully as for skin grafting. Infection if the graft is spread smoothly care being taken to press it into bubbles. The amniotic or glistening side is placed in apposition to the wound. Wax (mixture of paraffin beeswax, and castor oil) having been warmed to just the degree to liquify is now applied with applicators. A fresh applicator is used for each dip to prevent contaminating and disturbing the grafts. A outer dressing of cotton and bandage is all that is necessary for protection and absorption.

After two days, when dressing is removed the outer layer of the amnio comes away with the wax, leaving the inner layer closely pulled to the wound.

Cases of ulcers, burns and scalds and traumatic denudations are treated thus with remarkable result—best in case of traumatic denudation.

The method should commend itself if it does as well as skin graft for it obviates the necessity for

anesthesia and the production of secondary wound with no certainty of the outcome for their justification. H. W. KOSTER, M.D.

Strauss Copper in the Treatment of Cutaneous Tuberculosis (Zur Kupferbehandlung der kutanen Tuberkulose). *Deutsch. med. Wochenschr.* 9:3 1913, 503 By Zentralab. f. d. ges. Chir. f. Greengrub.

This article advocates the continuance of the hemotherapy of lupus. After the author had seen cases of marked improvement in cutaneous tuberculosis from the injection of copper preparations into the blood, he began to use it locally also with the object of getting results more quickly. He believes that copper preparations pulled locally not only have caustic action but that they exercise specific effect on the tubercle bacilli. He believes that in the new copper compounds, especially in new combination of leucithin and copper and also in iodized methylene blue have means of successfully combating mild and moderately severe cases of tuberculosis as an infectious disease and that this can be done without injury to the individual which is not the case in the tuberculin treatment. Pictures are given of several cases cured of cutaneous tuberculosis. BR. COPE.

Shackel and Renner Massive Dose X-ray Treatment of Cutaneous Epithelioma. *Y F M J* 9:1 1913, 933 By Surg., Gynec. & Obst.

The advantages of single massive dose over small fractional doses of X-rays in treating epitheliomas are (1) greater accuracy in measuring the dose (2) fewer visits to the patient (3) treatment (4) less total quantity of X-rays (5) better success in treating recurrences.

To obtain the same effect on an epithelioma by fractional doses as by massive doses, much larger total quantity of X-rays is required so that it produces the stage of erythema. Single massive dose has the efficacy of several divided doses whose combined intensity is considerably greater. At the same time the deleterious effects on the skin and its blood vessels is far greater with the fractional doses.

So if recurrences the resultant condition after fractional methods is very resistant to radiotherapy not so after massive doses.

Accuracy in measuring the dosage is obtained for ray quantity by H. L. Necke radiometer and for ray quality by the Benoit scale. Benoit's scale is used for most superficial lesions with Benoit's or more for deeper growths, aided by suitable filter. The radiometer and penetrometer method gives a direct reading of quantity and quality on all types of X-ray equipment while the milliamperage-mil unit method is inconstant on account of the variance in milliamperage reading with different types of inductor.

The approximate dose is carefully estimated for each individual case and applied with all the accuracy that the measuring instruments afford. If the estimated dose is larger than is usually re-

quired to produce moderate erythema it should be administered in more than one séance remembering, however, that any two divided doses do not produce the same total effect of a single dose equal to their sum. If after massive treatment resulting in erythema no beneficial effect is seen in one month the case should pass to the surgeon. If improvement follow without apparent cure second and even third massive dose is justifiable.

H. LEE E. POTTER

Mitchell Surgical Aspects of Purpura. *The Am Surg Ass.* 9 J. May. By Surg. Gynec. & Obst.

Hæmorrhagic tendency deserves high place in consideration of factors for safety in surgical operations. Hemophilia, jaundice, and purpura represent three types of pathologic hæmorrhage. Purpura is of greatest interest because of its many

variations, the possibility of confusion is diagnosed and its complications which may demand operative Henoch's purpura is the type with which we are concerned. Autopsy data do not offer complete explanation of the abdominal symptoms. Five cases are reported in which the diagnosis was questionable. A review of the recent literature shows that visceral complications may be serious and that intussusception is the most frequent and most serious lesion. There are reports of sixteen laparotomies, in eight of which intussusception was demonstrated and three intussusceptions were operated. There were no deaths from exploratory operation. The operative reports give a plausible explanation of the abdominal crises. The efficacy of the injections of serum has been well shown. Operation in the course of the disease, as shown the results, is not greatly to be feared.

MISCELLANEOUS

CLINICAL ENTITIES—TUMORS, ULCERS, ABSCESSES, ETC.

Robertson and Burnett The Influence of Lecithin and Cholesterol Upon the Growth of Tumors. *J. Exp. Med.* 9 J. Apr. 1915. By Surg. Gynec. & Obst.

The authors investigated the influence of injections of lecithin and cholesterol on the rate of growth of tumors in white rats. The growth used was the Flexner-Jobling carcinoma, inoculated into the axillary region. Rats from two sources were used and two specimens of tumor were obtained for the original inoculations. Injections were made directly into the tumor mass and were begun on the sixth and eighth days after inoculation in the two series.

It was found that cholesterol, whether suspended in dilute alcohol or in medium oleate solution, produced a marked acceleration of both the primary and the metastatic growth and that the acceleration of the primary tumor was most marked in the pre-metastatic stage.

Lecithin, on the other hand, when injected in the form of an aqueous emulsion directly into the primary tumor diminished the tendency to form metastases, retarded the rate of the metastatic growth when it did occur and, in some instances, retarded the primary growth. The retardation was most marked in the metastatic stage.

It was also noted that simultaneous injection of 1% trontium chloride solution did not appreciably affect the action of the lecithin.

JAMES F. CHURCHILL

Flaherty and Loeb Transplantation of Tumors in Animals with Spontaneously Developed Tumors. *Tr. Am. Ass. Pathol. & Bacteriol.* 1915, May. By Surg. Gynec. & Obst.

The large majority of all experiments in transplantation of tumors were carried out on normal

animals. It is apparently tacitly assumed that the condition existing in normal animals or in animals with a inoculated tumor on the one hand and animals with spontaneous tumor on the other hand were identical. The first experiments in which tumors were transplanted into animals with spontaneous tumors was reported by Loeb about eleven years ago. Loeb found at that time that pieces of an adenoma of the mammary gland of a rat could be transplanted very much more easily into a rat in which a tumor originated than in other rats. Later Loeb and Leopold found a similar condition to prevail in a dog having a mixed tumor of the breast in which pieces of tumor could be easily inoculated while the tumor could not be transplanted into other animals. It was especially noted orthy in both the series of transplantations that the transplanted pieces remained alive in toto in the animal.

High the tumor had existed spontaneously while in their individuals the whole transplanted piece or at least its center became necrotic. Loeb also reported later a few observations in mice which seemed to point to the conclusion that mice in which a tumor had originated spontaneously were more liable to form good soil for the growth of spontaneous tumors of other mice than normal mice without spontaneous tumors. The authors had, however, made only very few observations concerning this point and their conclusion in this respect was only a tentative one.

The results of their experiments carried out within the last two and one half years are sufficient definite to permit the conclusion that in mice with spontaneous tumors there is a factor present which permits tumors in general to grow better than in mice in which no spontaneous tumors had developed. There is, therefore, intimately connected with the development of spontaneous tumor in an animal a condition which favors tumor growth in general.

There is, however, another conclusion to be drawn from these results. Inasmuch as the percentage of cases in which tumors grew in the same individuals in which they originated is considerably greater than the percentage of growth in other individuals with spontaneous tumors, we must assume that the great facility with which tumors grow in the individual in which they developed spontaneously is due to two factors. First, the factor which the authors mentioned namely the presence of a condition favoring tumor growth in general in animals affected with a spontaneous tumor, and secondly a condition not specific for tumors but applying to other tissue as well, namely a condition which favors the growth of certain animal tissues in the individual in which the tissue originated as compared with the growth of the same tissues in other individuals of the same species. This latter fact is evidently due to a chemical adaptation existing between the physical-chemical character of the body fluids and the composition of the tissue.

Investigation of the growth of transplantable tumors, which are apparently less sensitive to the lack of this specific adaptation between tissue and body fluids than the large majority of ordinary tumors, shows that it grows in mice with spontaneous tumors not quite as well as in normal mice, especially if such an ordinary transplantable tumor is investigated under conditions in which its virulence has been experimentally decreased. Such material, however, grows better in mice with spontaneous tumors than in mice in which one of the ordinary rapidly proliferating transplantable tumors is growing. In all probability the spontaneous tumors call forth some immune reactions which are not present in normal mice, but they call forth immune reactions of less intensity than the rapidly growing, ordinary transplantable tumors. Furthermore, the fact has been established that those mechanisms which lead to an inhibition of growth in normal mice through an inoculation with our plus of tumor or through previous or simultaneous injection with spleen tissue are also operative in mice with spontaneous tumors and approximately to the same extent as in normal mice.

Warthin. Heredity with Reference to Carcinoma as Shown by the Study of the Cases Examined in the Pathological Laboratory of the University of Michigan During 1895-1913. *Tr. Am. Assoc. Physicians*, 912, May.

By Surg., Gynec. & Obst.

This paper gives a statistical study of the records of the Pathological Laboratory of the University of Michigan during the years 1895-99, in which period 3600 cases of neoplasm were studied for the purposes of practical diagnosis. Of these 3600 cases, 600 were cases of carcinoma. This material, in about 90 per cent of the cases observed, was taken from the general population of the state of Michigan. The University Hospital being a state hospital and not a charity one, gives a much more representative

population than is usually found in charity hospitals of the large cities, and the possibility of obtaining a family history is therefore much better than in the latter case. In about fifteen per cent of all the cases in which a family history could be obtained (1000 cases) definite family history of carcinoma was given. In a number of families at least six in number in which all of the members for three generations, both cancerous and non-cancerous, were included, a most striking family susceptibility to carcinoma was shown. In addition to these carcinomatous families, the author presents a study of carcinomatous fraternities, that is, families in which a complete family history is not obtainable but in which for two or three generations of given family groups a distinct susceptibility to carcinoma is shown.

As the result of these studies, the author concludes that the study of a large number of cases of carcinoma yields isolated but striking examples of a marked family occurrence through several generations and a much more frequent family group or cancerous fraternity occurrence. From such histories it is hardly possible to draw any other conclusion than that a definite cancer susceptibility exists in certain families. The great frequency of association with tuberculosis might be taken as an evidence of a general weakened resistance on the part of these family lines and this conclusion is supported by the extinction of many of these lines through a lessened fertility.

In the study of all of our neoplasm material a family susceptibility is occasionally shown in the case of angioma, lymphangioma, fibroma, neurofibroma, lipoma, myofibroma of testis, adenoma of breast, and adenoma of thyroid but extremely rarely in the case of sarcoma.

1. A marked susceptibility to carcinoma exists in the case of certain family generations and family groups.

2. This susceptibility is frequently associated with a marked susceptibility to tuberculosis, and also with reduced fertility.

3. The multiple occurrence of carcinoma in a family generation practically always means its occurrence in a preceding generation.

4. The family tendency is usually more marked when carcinoma occurs in both maternal and paternal lines.

5. Family susceptibility to carcinoma is shown particularly in the case of carcinoma of the mouth, lip, breast, stomach, intestines and uterus.

6. In family showing the occurrence of carcinoma in several generations there is a decided tendency for the neoplasm to develop at an earlier age in the members of the youngest generations. In this case the neoplasm often shows an increased malignancy.

7. Because of the difficulty of obtaining complete family records the laws of inheritance of carcinoma susceptibility cannot be determined accurately and it is highly desirable that investiga-

tions of large family records should be made relative to the occurrence of carcinoma susceptibility. In Levin's study of cancerous fraternal twins in connection with the whole family history the percentage of the cancerous members of each cancerous fraternity corresponds very closely to the Mendelian percentage of members with recessive unit-characters in a hybrid generation. The same conclusion might be drawn from the author's cases in certain cancers but it does not seem to him that the data are sufficient for such conclusions. Levin does not consider this conclusion final, and also concludes that resistance to cancer is a dominant character whose absence creates susceptibility to cancer. While some of the above cases show family history suggesting this, others could indicate a progressive degenerative inheritance the running-out of a family line through the gradual development of a tumor stock particularly as far as the resistance to tubercle bacilli and cancer is concerned.

Levin, as well as Williams noted the family tendency to specific localization of the cancer particularly the uterus in the female members. This is well shown in the above family histories and in some of the cancerous fraternities. Levin concludes that the most important result of his investigation is the fact that it shows the presence of an inherited resistance to cancer growth. Warburton could put it in just the opposite way and say that his observations are important in that they show in certain families inherited susceptibility to cancer. If the majority of the human race do not show this susceptibility resistance to cancer is a normal trait of the species. An increased susceptibility becomes, therefore, the abnormal character of importance and investigations should be carried along the line of attempting to determine just what lies back of this susceptibility.

Levin: The Mechanism of Metastatic Formation of Cancer. *T. in Int. Path. & Bacteriol.* 9:3. May. By Burg, Gyrec & Ober.

The author describes a series of experiments with a inoculable sarcoma and carcinomas of the white rat in which the formation of metastasis was induced artificially. In a series of experiments the tumors were inoculated subcutaneously and then subsequently into an organ (liver or spleen). In those animals in which the tumors grew subcutaneously they also grew in the organ or in other organs the artificial production of metastasis was successful. When the subcutaneous inoculation failed, the subsequent inoculation into an organ was also a failure.

In a second series of experiment the subcutaneous inoculation was followed by simultaneous inoculations into the organs (liver and spleen). The results were identical with the first series inasmuch as the inoculations into the organs failed when the subcutaneous inoculations failed. But on the other hand, when the subcutaneous inoculation was successful then in a certain number of animals the

subsequent inoculation was successful in both organs. While in other animals it succeeded only in one organ and failed in the others.

In the third series of experiments the subcutaneous tumors were removed surgically and then the same tumors were inoculated into one or two organs. In these experiments the removal of the subcutaneous tumors radicalized the inoculation into the organs. When the subcutaneous tumors recurred, then the inoculation into the organs succeeded and again the result was inoculation into the organs as done, then the tumor grew either in both or only in one organ.

The author concludes from the results of this experimental study that the growth of metastases depend upon the same conditions as the growth of the original primary tumor and that they both depend upon an interaction between the malignancy of the cancer cells on one hand and the condition of general or local susceptibility or resistance against tumor growth of the organisms of the animal.

Heyde and Vogt: Studies on the Effect of Aseptic Surgical Tissue Necrosis and Researches on the Causes of Death from Burns (Studies über die Ursachen des septischen chirurgischen Gewebenekrosen und Versuche über die Ursachen des septischen Todes). *Zentralblatt f. Chirurgie* 1913, 1: 90. By Zentralblatt f. Chirurgie, Cohn & Co. Grossestr.

These very complete work offers new and interesting experiments on the causes of death from burns and on the causes of death after unilateral nephrectomy. On the basis of numerous and varied experiments the authors concluded that burned animals may die of foreign tissue. In favor of the view that sufficiently large burn of the third degree may put the organism into a kind of permanent acidification is the observation that experimental animals may be kept alive by excising the burned area. There is also the possibility of affecting animals who have not received a burn by the transplantation of burned flaps in just the same way as if they themselves had received a severe burn. Heyde and Vogt also succeeded in demonstrating in the urine of these transplantation animals the same toxic principle that occurs in the urine of the burned animals. In reference to this toxic principle the results showed that a substance can be secured from the urine of burned and even of normal human beings which produces extremely characteristic phenomena and affects animals with perfectly definite disease-complex, consisting of motor irritability, cramps, high grade dyspnoea, which are added the unknown symptoms of anaphylactic shock, such as haemorrhagic spitting, bleeding and loss of urine and faeces. Section of these animals in the acute stage shows hyperemia of the gastro-intestinal tract, a decrease of coagulation of the blood and leucopenia. In searching for the urinary toxic Heyde and Vogt succeeded in producing the typical picture of this intoxication in guinea-pig preparation. As the

chief results of their researches the authors designate the demonstration of well-defined chemical body of low constitution which can provoke the symptoms occurring in naphylactic shock and after the action of the toxic urinary principal I burns. They also demonstrated that the toxicity of such substance diminishes the high it is constituted. Thus either fever producing nor a toxic action could be obtained from the pure albumen. As a practical result of their researches the authors recommend wherever possible the excision of the burned area in burns of the third degree the protection of the body from loss of water from the wound the treatment of the patient with CaCl_2 solution and finally tropine in large doses. By applying the results of their animal experiments on the causes of death after unilateral nephrectomy to the experiences of human pathology Heyde and Vogt concluded by analogy that the uræmic coma occurring after kidney operations for a previously unilateral disease was frequently not of reflex, but of toxic nature. **LEUKEMIA**

Bloodgood Th. Diagnosis and Treatment of Border Line Pathological Lesions. *74th Surg. Ann., N. Y. 93.* By Surg. Gynec. & Obst.

By border-line pathological lesions Bloodgood means those in which it is difficult, clinically or from the gross appearance, from the frozen microscopic section to come to a definite conclusion as to whether lesion is benign or malignant.

The earlier after the first symptom patients present themselves for treatment the greater will be the number of these cases in which the diagnosis will present difficulties. In this stage the prognosis after proper treatment is best.

It is the author's opinion that there is sufficient experience at hand at the present time to allow one to formulate definite conclusions as to the proper method of diagnosis and treatment in this stage in which the result should be the best.

Incomplete removal of any malignant disease in its earliest stage gives much worse results than complete removal in later stage. This fact must be borne in mind.

Incomplete removal of distinctly benign lesion with the exception of the angioma, is always followed by the reformation of the tumor from the residues left behind and the chances of malignant change in these residues are greater than in the undisturbed benign lesion. This fact should also be kept in mind.

These border-line pathological lesions, from the standpoint of diagnosis and treatment can be divided into three great groups.

GROUP 1. In this instance the complete excision of the palpable nodule can be accomplished without danger and without mutilation so that after its removal it makes little difference what the microscope shows—the proper operation has been done.

GROUP 2. Here also the complete excision of the nodule can be accomplished without danger of mutilation but there is possibility that the lesion

may be a carcinoma of a type in which experience has demonstrated the neighboring lymphatics should also be radically extirpated.

GROUP 3. In this series the diagnosis of malignancy would indicate more radical operation with mutilation and in some instances increased dangers from the operation while if the lesion were still benign a cure could be accomplished with less or no mutilation and less danger.

From the author's investigations he is confident that there is sufficient evidence to indicate to the surgeon the proper operation in each group with best results for the patient.

In the first place the surgeon must have the easily available knowledge of the different pathological processes which may occur in definite localities. He must be familiar with the methods of the diagnosis of the lesion. In this special region and the nature and extent of the operation which promises the best results.

The diagnosis as to the proper treatment rests upon, first a careful study of all the available clinical evidence. In some cases this is sufficient to indicate the proper treatment without a gross or microscopic investigation. The author thinks this is true for palpable masses in the stomach and colon. The resection of such masses without an investigation of their gross and microscopic pathology by cutting into them yields the best results with the least mutilation and danger. If the pathological examination after their removal shows benign lesion, the patient is protected from the later development of cancer. If on the other hand it should prove to be malignant the chances of cure are best.

As examples of Group 1 may be mentioned benign pigmented moles, warts, small subepidermal nodules, and subcutaneous, more or less encapsulated tumors.

In the second group may be mentioned lesions on the lower lip. If the lesion may be radically excised with a V-shaped piece without danger of mutilation the wound may be closed. Then a frozen section is made and if it proves to be carcinoma of the epino-cellular type the gland under the jaw should be completely removed through a separate incision. This operation in two stages and without continuity dissection has been demonstrated to fulfill all the requirements. With an early lesion on the tongue the method is entirely different, because for the malignant nodule or ulcer the local operation must be more vital. In a case of this kind under general or local anesthesia, the palpable area is excised with the cautery and immediately studied under the microscope in frozen section. If the section shows carcinoma, then the more radical operation must be proceeded with at once.

As an example of Group 3, a lump in the breast may be used—one in which clinical diagnosis is impossible. The surgeon cut down upon lump. In the majority of cases the differential diagnosis between benign and malignant is best indicated by the gross findings. In many instances the frozen sec-

tion is more difficult to interpret than the gross pathological picture. In a few instances the frozen section is helpful, for example, between an intra-canalicular myxoma and medullary carcinoma.

The next important question to answer is, what shall surgeons do when in doubt after he has examined clinically, and gross and microscopic pathological investigation? It is the author's opinion that we have sufficient evidence to answer this question. It rests upon the knowledge of the frequency of malignant disease in the different regions and the results of radical treatment. In the breast the complete operation for cancer should always be performed in any female woman over twenty-five unless the benignity of the lesion is established. The complete operation should follow immediately upon the exploratory incision. This conclusion is based upon the fact that the mutilation of the complete operation is but slight, the additional danger is little if any while the probability of cure when the malignant tumor is subjected to complete operation in this doubtful stage is eighty per cent. more on the other hand when the operation is done in two stages the chances of cure are reduced to almost nothing.

In bone lesions the mutilation of amputation is so great and the chances of cure of any doubtful lesion (should it prove malignant) are so slight that the most conservative operation should always be chosen. This is also true for doubtful lesions in the nasopharynx and antrum, the alveolar border of the jaw, and in the body of the lower jaw.

Bloodgood feels confident that if surgeons will carefully investigate these lesions clinically, scrutinize their gross appearances and look at the frozen sections and keep a check on their results up to date, they will soon be in a position to meet the requirements of the diagnosis of these border-line pathologic lesions, inasmuch as immediate treatment based upon this investigation will lead to removal of the lesion giving the patient the best opportunity of a cure with the least mutilation and danger.

SERA, VACCINES, AND FERMENTS

Leachk. Contribution to the Serum Diagnosis of Tumors (Beiträge zur serologischen Gewebekrankheitsdiagnostik). *Beitr. Klin. u. Lab. Diagn.* 1914, 1, 1-10.

By Zentralk. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

The contribution consists of a report on extensive experiments to demonstrate complement fixation constituents in the serum of cancer patients. Washings of cancer cell emulsions, lactic acid solutions, methylalcohol extracts and antiformin solutions of carcinomatous tissue, sarcoma of man and rats, pancreas of man and calves as well as spleen and liver were used as antigen. Of sixty-one tumor cases, in only six did the sera give negative reactions with each antigen. In 90 per cent the sera were positive with the various antigens. In a series of one hundred forty-three patients, sick with other diseases, only 7.5 per cent gave positive reaction. The best

results were obtained with the antiformin solutions 88.6 per cent positive reactions in tumor patients, and only 7.6 per cent in those sick with other diseases. Of the latter group 78.6 per cent gave positive Wassermann tests. The reactions are dependent upon the lipoids and it is a question of reaction between antilipoid substances and the lipoids of the antigen. Further tests with the cancer cell reactions of Freund and Kammer resulted in positive reactions in 54.7 per cent of tumor patients (series of fourteen cases) 48 per cent of patients sick with other diseases (twenty-one cases) and in 10 per cent normal individuals (eight cases). The results are not uniformly convincing, but this should not excise the method since with refinement of the technique it may produce results of practical value.

VON GRAEVE.

Well. Nature of Anaphylaxis and Relations between Anaphylaxis and Immunity. *J. Med. Research*, 1914, 1, 274, 407.

By Surg., Gynec. & Obst.

In spite of the striking difference between the manifestations of anaphylaxis and of immunity there are many facts which indicate that they are closely related phenomena. Thus, a guinea-pig, by virtue of single injection of an alien protein, becomes hypersensitive towards that protein, but, by frequent repetition of the same, becomes immune thereto. An immunized guinea-pig, on the other hand, possesses a serum which, when injected even in minute amounts into a normal guinea-pig, renders the latter highly hypersensitive to the specific antigen in question. The author discusses the two important theories in which attempt has been made to unify the phenomena of anaphylaxis and of immunity and to explain them upon a single basis. The first of these maintains that the anaphylactic reaction is intracellular, the second, which has now very largely displaced the former in the literature, maintains that the reaction is entirely humoral. The difference between these two conceptions is, as Well states, fundamental, and the determination of the correct view is of first importance for the whole subject of immunity. He then considers each of these theories briefly, namely the cellular and the humoral.

It therefore seemed important to the author to verify experimentally the conception that the incubation period necessarily accompanies passive sensitization. An experiment was therefore planned in such manner that series of animals received a wide range of combinations of these two factors—antigen and antibody being given simultaneously. In another series the same combinations were employed, but the injections of antibody and of antigen were separated by a time interval. In the former case anaphylaxis failed to supervene in the latter it invariably occurred. His study has been exhaustive and covers a very wide range. His experiments seem to demonstrate that immunized animals are also potentially anaphylactic. In the terms of

the theory herein supported their body cells contain sensitive receptors, or anchored antibodies, in sufficient number to produce an anaphylactic reaction, but are protected by the free antibodies of the serum.

Summary of experiments It has been impossible to produce anaphylactic shock in guinea pigs by injecting antigen and antibody simultaneously. For sensitization to occur an interval of time must elapse between these two injections.

1. No qualitative changes have been shown to take place in the introduced immune bodies during this interval.

2. Quantitatively, it has been shown that there is a marked diminution in the circulating antibodies in the blood during this interval.

3. It has been shown that, in spite of the disappearance of the antibodies from the blood, they persist in the body as is shown by the persistence of the induced anaphylactic state.

4. By previously saturating the guinea pig with normal rabbit serum it has been possible to prevent sensitization by means of immune rabbit serum.

5. Guinea-pigs that had been either actively or passively sensitized were protected against anaphylactic shock by introducing into their blood large amounts of immune body.

6. Guinea-pigs that had been immunized in the popular acceptance of that term, by the frequently repeated injection of antigen, are shown to be potentially anaphylactic.

CONCLUSIONS

Anaphylaxis is due to the reaction between specific antibodies present in the cells and the introduced antigen.

In passive sensitization, the body cells absorb the introduced antibodies from the blood, and the animal is thus made anaphylactic.

The function of immune bodies present in the serum is to neutralize the introduced antigen, and so to protect the body cells.

The anaphylactic animal regularly contains in his circulation an insufficient quantity of antibodies to protect his body cells.

The immunized animal is potentially anaphylactic. His body cells possess anchored immune bodies, but are protected by those in circulation.

Exactly the same antibodies are present in anaphylaxis as in immunity. In the former they predominate in the cells; in the latter in the serum.

GEORGE E. SMITH.

Robinson and Auer: Cardiac Disturbances in the Dog During Anaphylaxis. *T. Am. Phys. Soc.*, p. 3, May. By Surg., Gynec. & Obst.

Dogs sensitized by the subcutaneous injection of horse serum were examined at intervals (2-6 days) with the electrocardiograph. The animals were kept under light ether narcosis by intratracheal insufflation, the blood pressure read by means of a mercury manometer connected with the carotid artery and the electrical variation of the heart led

off from the right front and left hind leg. The toxic injection of horse serum was 20 cc. and was always injected into the jugular cannula.

Twelve dogs were used, and of these six gave outspoken changes in the electrocardiogram. Four of these showed a qualitative identity in the changes recorded: the R wave gradually diminished while the S and T waves increased greatly in size, the P-R interval was increased in all four cases. In one of these a partial heart block of varying degree developed which disappeared twenty nine minutes after the serum injection.

In the fifth dog partial heart block was obtained again, but this time without any such striking change in the general form of the complexes as have been described.

The location of the source of these disturbances is probably peripheral, in the heart itself, because the changes were also obtained after section of the vagi in the neck.

The drop in blood pressure which is so characteristic of anaphylaxis in the dog (Biedl and Kraus) cannot be considered the cause of these cardiac disturbances because a number of the sensitized dogs examined showed a profound drop in blood pressure without any change practically in the form of the complexes. Moreover when the blood pressure was suddenly lowered by amyl nitrite, sodium nitrite or by section of the splanchnic nerves, the electrocardiograms again showed practically no alteration.

After the heart recovered from these anaphylactic changes the re-injection of the same dose of horse serum caused no change in the character of heart beat (anti-anaphylaxis).

The results demonstrated clearly that the heart of dogs may show profound temporary pathological alterations due to serum anaphylaxis. These results may possibly aid in explaining certain cardiac disturbances in the human subject.

BLOOD

Bond: The Mucous Channels and the Blood Stream as Alternative Routes of Infection. *Bull. M. J.* 9 3, 1, 645. By Surg. Gynec. & Obst.

The article takes up the question as to whether the organisms which bring about infective diseases of the liver, kidney, gall-bladder, the urinary bladder, mammary, salivary glands, etc., reach their respective structures through the blood stream or by the mucous channels of these structures communicating with the body surface. Aside from the blood and lymph, three ways are open for a disease organism to gain entrance to a secreting gland: (1) The organism may be motile; (2) it may be passively transported by muscular or peristaltic action; (3) it may be spread over the surface of the mucous membrane by growth, as a diphtheria membrane. Bond says he has previously demonstrated that particles of indigo can be carried along mucous canals and gland ducts in a direction opposite to that

taken by the normal secretion. For this, certain conditions must be fulfilled: (1) There must be reversed mucous current along the channel; (2) there must be some stasis of the normal secretion or excretion in the duct; or (3) a fistulous communication must exist at the proximal end of the canal by which the contents can reach the surface of the body without passing down the duct. Indigo granules flow from caecal fistula within 4 or 48 hours after introduction into the rectum.

The question of stasis in the small intestine and of colonic ulceration is taken up. The author inclines to the view that the organisms causing this ulceration reach their site by direct route of the testine.

Infections of the gall bladder and biliary channels are also considered and here again the author inclines to direct infection from the intestines rather than hematogenous, particularly in the acute infections of the gall bladder. He acknowledges as probable that the bacteria may, after their passage through the liver and discharge in the bile, act as vectors of gall-stones, but their virulence must be greatly reduced. On the other hand, the direct entrance from the duodenum of bacteria into the bile duct and up the cystic duct into the gall-bladder could easily cause an acute septic cholecystitis. When the liver is acutely infected by the blood channel, abscesses may form in the liver but it is very rare that the gall-bladder is affected at the same time. Acute infections of the gall-bladder generally occur without any evidence of infection in the liver.

Typhoid carriers are usually females and the breeding ground of the bacilli has been shown by Lents and Forster to be the gall-bladder. Bond says the clearing up of bacteriologic points would greatly help us in the question whether typhoid bacilli in an active and virulent state are present in the vomitus whether typhoid bacilli from the urine of typhoid patients which have presumably been secreted by the renal epithelium after passage through the blood stream are as virulent as the bacilli which are present in the stools of these people. Bond says that too little emphasis has been placed on the influence of mucus on the growth of microorganisms and the part played by the mucus in the protection of the epithelial cells. Pure bile injected into the pancreatic duct produces acute pancreatitis but when this bile is mixed with mucus, pancreatitis does not ensue (Opie). Bond says that probably different kinds of mucus—that is, mucus secreted by different kinds of epithelium—have different effects on organisms. From comparative anatomical viewpoint he points out the two kinds of salivary secretion: the woodpecker has one which causes the insects to stick to the bird's tongue and the other an ordinary non-viscid saliva which these insects do not stick to.

The author considers the genito-urinary tract and mentions the frequency with which organisms are carried up from the vagina to the fertilized extremities of the testes. Indigo particles are also

carried up in this way in less than forty-eight hours. Cases of epididymitis are more easily explained by the transference along the vas deferens than by the blood stream. Gonococci in the blood would be very apt to set up joint conditions but the latter are rare compared to the former. Barnard and Lembarth emphasized the urinary tract as a possible route for bacteria to the pelvis of the kidney. C. Bond points out that coli cystitis is more common than B. coli pyelitis in children. Urinary stasis provides good condition for a reversed current in the tract and so infection by this route. Bond thinks that when bacilli can reach the pelvis of the kidney by the ascending urinary tract it produces symptoms and effects which differ from those produced by the same organisms when it reaches the kidney by the blood stream. He suggests that these differences depend on the fact that the organism is undergoing adaptation to a mucous or urinary environment in the one case and blood lymphatic stream environment in the other. Again, in considering infections of the mammary gland he thinks the bacteria are usually introduced by way of the nipple and ascend the ducts.

M. S. H. BARNARD.

Commons Leukocytic Inclusions of Dobie J. Med. Record, p. 3, 1912, 570.

By Surg. Gynec. & Obst.

Diligent scientific work has been carried out in the investigation concerning the etiology of scarlet fever. Examinations of the lymph nodes, pharynx, skin, and blood have been made and from time to time new etiological factors have been suggested. Streptococci may play some part in the production of the disease. The most recent suggestion has been offered by Dobie, who upon examining the blood smears of thirty cases found within the cytoplasm of the neutrophilic polymorphs multi-form bodies staining somewhat less darkly than the nuclei. These are found in large percentage of polymorphs in all except a few cases, which were examined last in the disease. There has been already some confirmatory work by other authors, namely Kretschmer of Strassburg who examined thirty scarlet fever cases and all showed inclusions. In one he found them a day prior to the eruption, but the largest numbers were found during the first four days of the eruption.

Nicoll and Williams, using the Manson and Giesma stains, found inclusions in forty-five of fifty-one scarlet fever cases, which had been ill longer than eight days. Kolmer examined 6 cases of scarlet fever and confirmed the work of his predecessors. He also in diphtheria, sepsis, erysipelas, empyema and pneumonia reported positive findings. Franken of Hall examined twelve scarlet fever cases and found nine positive. In numerous other morbid processes and in normal people he failed to find inclusions. He considers that they are of diagnostic value. Some authors report that the examination of the blood of a series of normal children

show in many of them the presence of the inclusions. When a febrile addio intervened the inclusions materially increased in numbers. They consider that these are not pathognomonic of disease—certainly not of scarlet fever.

The thor records his personal observations which were briefly as follow: 1. 55 examinations of 95 febrile and 26 afebrile cases. 2. Normal individuals and 6 laboratory animals which are suffering from typhoid fever (1 case), scarlet fever (5 cases), tuberculosis (14 cases), croupous pneumonia (4 cases), m. m. p. (4 cases), local supp. rat. (4 cases) and various the diseases in each case 300 neutrophils were examined except for typhoid fever 1 which fifty cells are examined.

The results of his investigation show that the so-called inclusion bodies are to be found in practically all febrile diseases and that they in some cases persist in decreasing numbers without coalescence in prostatic conditions (chronic) of afebrile character. 1. severe injuries about febrile disturbance and in some normal individuals. They are apparently absent in laboratory animals. A clear origin seems probable. The alleged specificity of scarlet fever has not been corroborated.

GEORGE E. BEILA

Case 1. The Lymphocytosis of Infection. (Am. J. M. Sc. 93, 3, 335. By Surg. Gynec. & Obst.)

The majority of infectious diseases are accompanied during their cut stages by polymuclear leukocytosis but occasionally infections show a lymphocytosis instead, the most striking instance of this being shown in whooping cough, when it is of such constant occurrence that some believe it to be of diagnostic importance. The group of cases here reported are such as would ordinarily be associated with polymuclear leukocytosis and appear to be connected at least in some cases with streptococcal infection and their practical interest to clinicians arises from the fact that they are liable to be confused with lymphatic leukemia.

Case 2. Wound infection with toxaemia, lymphangitis and denites lymphocytosis contained fever with recovery.

The total number of leukocytes was never above 20,000, mostly of smaller types with no other blood changes. Recovery was slow but complete.

Case 3. Boils persistent lymphocytosis recovery. The disease was of about eight weeks duration, the total number of white cells varied from 3,400 to 5,000 the differential count showing polymuclears from 14 per cent to 1 per cent while the lymphocytes were from 79 per cent to 86 per cent.

Case 4. Occurred during an epidemic of streptococcal sore throat, the patient, girl of 20 years, in the course of the disease developed marked lymphadenitis of the neck, glands, axilla and submental region later she developed a cough with slightly blood-streaked sputum lost eight developed good deal of digestive disturbance with

sweats. Physical examination of the chest showed an abnormally dull percussive note over both apices especially the right the glands showed no tendency to break down. The leukocytes, upon the first examination were 9,000, polymuclears 8 per cent and lymphocytes 7 per cent eosinophiles 1 per cent a week later she was much better the blood showing R. B. C. 5,600,000 W. B. C. 3,600 of which 36 per cent were polymuclears and 6 per cent lymphocytes eosinophiles 1 per cent.

Case 4 was a man who while in barber's chair had severe attack of vertigo of short duration. The patient had had a cold, short while before a week later he developed swollen painful glands in the neck and as for the next ten days confined to his bed with fever and night sweats. Frequent blood examinations showed a leukocytosis of from 5,000 to 3,500 polymuclears ranging from 50 to 60 per cent large lymphocytes from 4 to 67 per cent small lymphocytes from 8 to 4 per cent with eosinophiles as high as 1 per cent. In this case the differential diagnosis lay between streptococcal adenitis, tubercular adenitis and lymphatic leukemia. In the majority of cases of lymphatic leukemia the leukocytes run over 90 per cent and show broken-down forms.

SUMMARY

Wound sepsis, boils, and widespread streptococcal adenitis of tonsillar origin may be accompanied by lymphocytosis so pronounced as to suggest lymphatic leukemia.

No reason is known for this substitution of lymphocytosis for the usual polymuclear leukocytosis of infection.

3. The distinction between such a lymphocytosis (accompanied by denites) and leukemia, depends upon the recognition of an infectious origin of the adenitis upon the lesser degree of lymphocytosis in the infectious type and upon the course of the disease.

H. A. PORTER

Byford. Anemia as an Operative Risk. (T. Am. Gynec. Soc. 93, May. By Surg. Gynec. & Obst.)

The author divides anemia into two classes that with compensation and that without compensation.

Anemia with compensation includes those cases that have acquired the resisting powers of a normal individual. The hemoglobin percentage may be quite low below fifty but the erythrocyte count is usually above 4,000,000.

The characteristics of the anemia have lasted long enough for an adjustment of the functions to the anemic state (1) the patient is able to perform the duties of a moderately active life with comfort (2) the muscular development is good (3) there is an absence of marked emaciation (4) the blood pressure is good and the pulse of normal frequency during resting periods (5) the anemia responds slowly to treatment since an anemic habit has been acquired.

They take anesthetics well, stand major operations

tions will unless there is great loss of blood and recover promptly from at times of great depression.

Anemia without compensation is found in those patients who are unable to endure hard work, have poor muscular development, are deranged and usually have a low blood pressure and rapid pulse.

Several varieties are mentioned those with chronic sepsis, those bedridden by functional disorder, those subject to continuous depressing influences, nervous, those of recent occurrence and rapid improvement, those of the early stages of coarctation from serious attacks of disease and those connected with serious chronic or progressive incurable diseases.

In estimating patient's resisting powers, attention should be given to the number and character of the erythrocytes as well as the hemoglobin percentage. In general, it may be said that the compensated cases stand operation better than the blood pictures would indicate while the uncompensated cases do not stand them well as it could indicate.

Cullen Operation on Patient with Hemoglobin of 40 Per Cent or Less. T. Am. Gynec. & Obst. 1913, 31, 7.

Cullen examined the specimen from the Gynecological Department of the Johns Hopkins Hospital (nos. 833, 834, 835) and found hemoglobin 40 per cent or below.

(The patient had recovered, hence my mistake was responsible for this decreased hemoglobin in forty cases and hyperplasia of the endometrium in thirty-three cases.) In hyperplasia of the endometrium the means of the membrane that has an intact surface epithelium occasionally with slight polypoid outgrowths, very small glands in places and several large ones in others. In addition, the stroma of the mucosa is very dense and contains in some instances large umbels of nuclear figures. The veins in the stroma of the mucosa are often dilated and frequently contain thrombi. It is less than definite disease in itself. It usually occurs in women of the child-bearing period but has in a few instances been found in young girls. It is temporarily controlled by curettage. I do not advise hysterectomy before relief takes place.

Squamous celled carcinoma of the cervix was responsible for the low hemoglobin in eighteen cases, pelvic inflammation in thirteen cases, retained placenta in thirteen cases, fetal pregnancy in thirteen cases, the mucous cases, adenomyoma of the uterus in seven cases and chorioepithelioma in two cases.

Among other causes of the low hemoglobin, he mentions hemorrhoids, general peritonitis, carcinoma, sarcoma of the uterus, prolapsed rectum etc.

In 15 cases where patients recovered there were

49 cases between 4 and 36% inclusive
3 cases between 35 and 31% inclusive
29 cases between 3 and 36% inclusive
30 cases between 35 and 20% inclusive
4 cases below 20%
153 cases

Cullen gives the results of operations on large number of cases where the hemoglobin is below 30%. The operations performed were curettage, vaginal removal of submucous myomata, exploratory laparotomy, removal of one or both appendages, and by rectum vaginal abdominal. He then gave in detail the histories of patients with such low hemoglobin that operation could not be undertaken while in the hospital. Finally he reported a series of cases with low hemoglobin where the patient died after operation. His deductions are as follows.

From the foregoing it is clearly evident that as rule patients with relatively low hemoglobin stand pelvic or abdominal operations fairly well. Where carcinoma of the cervix or body of the uterus exists, however, the dangers are materially increased.

In those cases where the bleeding is limited entirely to the menstrual period it is well to defer operation till a few days before the next period thus raising the percentage of hemoglobin to the maximum.

Hyperplasia of the endometrium is a definite disease. The bleeding, used by this condition often leads to low hemoglobin index which can be temporarily relieved by curettage. Sometimes after curettage in the course of years the excessive flow cases. In these cases it is necessary to remove the body of the uterus.

I cannot overstate strongly upon the members of this society the necessity of their becoming thoroughly familiar with the technique of transfusion. This procedure as simplified by Bernheim can be readily employed by any surgeon and should not require more than twenty minutes for half a horse transfusion. It is certainly in the best of the best.

Routine procedure in cases where operations are required on patients with very low hemoglobin. It is hardly necessary to draw attention to the inadvisability of employing an agent the mildest cathartic after operation on such patients. I recently heard of a patient who not withstanding hemoglobin below 20% underwent severe abdominal operation. A day or two after and she was given calomel and salts and promptly died. The after treatment of these cases requires the greatest care coupled with the avoidance of anything that will in the least measure diminish the patient's strength.

Schenck, Thrombosis and Embolism Following Operation and Childbirth. T. Am. Gynec. & Obst. 1913, 31, 7.

The author based this paper on previous study of forty-eight cases, supplemented by nine personal

cases, four of which followed confinement and five operations.

Thrombosis of the pelvic veins is common and often unrecognized. It affected the veins of the leg 38 times among 96,000 hysterical cases collected from literature and 566 times after 49,161 operations, giving percentages of 0.04 and .15 respectively. There were 96 instances after 3,304 myoma operations or 3.0 per cent.

The etiology is difficult to prove. An analysis of many facts seems to show that injury to the endothelial lining of the veins and slowing of the blood stream are important predisposing causes, but there must be some other factor and this Schenck believes to be the hemagglutins set free by hemolytic bacteria. His argument is as follows:

Thrombi are formed by the agglutination of platelets and red blood corpuscles. The most frequent cause of agglutination is the action of hemolytic bacteria. This action bears no relationship to the virulence as regards sepsis. Such bacteria may frequently be present causing no other symptoms of their presence. Hence we have the picture of an aseptic thrombosis.

There are no reliable premonitory symptoms. Especial stress is laid on the meaning of slight or severe chest pains during the convalescence.

Prophylaxis begins before is kept in mind during, and receives particular attention after operation. The author advocates systematic exercises while the patient is in bed.

Sixty-five per cent of the affected patients never fully recover. If complete restoration is to follow it will come in the first year.

The status of the Trendelenburg operation for extraction of an embolus from the pulmonary artery is reviewed.

BLOOD AND LYMPH VESSELS

Vaughan. Two Cases of Aneurism Treated by the Sistrum Method. *T. Am. Surg. Ass.* 9 May. By Surg. Gynec. & Obst.

Vaughan agrees with the statement that the method of treating aneurisms with the greatest improvement is in the treatment of such conditions since the days of John Hunter. He reports two cases.

Case. It became necessary to change a contemplated reconstructive aneurismorrhaphy into one of the obliterative kind combined with an Aclerlign on account of the impossibility of controlling the hemorrhage in the sac. The patient was a former soldier, white, twenty-nine years old, and insane. The aneurism was operated on about one month after its discovery. At that time swelling three inches long and one and one half inches in width was noticed in the left groin, with brisk and expansile pulsation. The vessels were exposed by an incision extending along the femoral artery upward across Poupert ligament then out and along the outer side of the inguinal canal and stripping up the peritoneum until the external iliac

was exposed as high as the bifurcation of the common iliac. The aneurism was about two inches long, irregularly fusiform in shape and extended above and below Poupert ligament. The iliac femoral vein was closely adherent to the inner side. The artery was clamped above and below with rubber padded forceps. This stopped pulsation but on opening the sac, red blood flowed out in a steady stream. Attempts were made to control this flow by pressure beneath and to the inner and outer sides, thinking it might come from a collateral branch but without success. So the walls of the sac were sutured together and then turned in by a second row of catgut sutures, and the external iliac artery was ligated about 1 1/4 inches above. No pulsation in the arteries of the foot at the end of the operation and none was felt until fifteen days later. Good recovery. Death three months later from heart disease. The autopsy showed the sac filled with tough clot, also the external iliac artery up to the origin of the internal iliac. A second aneurism was found on the superior mesenteric artery, sacculated, about 3/4 inches in diameter and filled with clot.

Case. Popliteal aneurism of right side. Reconstructive operation. The patient was a negro male, 4 years old and had suffered with pain in the right knee for about one year. An oval, pulsating swelling about the size of a hen's egg was seen in the popliteal space. On opening the vessels by incision, an irregular oblong sac was found and at its lower end separated by a constriction. A second sac was seen about half the size of the first but longer and gradually diminishing in size to the normal caliber of the artery. The artery was controlled by means of rubber bands around it, clamped by hemostats, the sacs were incised the clots turned out and the walls sutured with fine catgut, turning in successive layers of the sacs until they were obliterated and the lumen of the artery restored to about its normal diameter. At the close of the operation feeble pulsation could be felt in the artery below. Next day pulsation could be felt in the arteries of the foot. Good recovery—well one year later.

Regina It. and Bourrut Lacouture. Occupational Aneurism of the Superficial Palmer Arch (Anévrisme professionnel de l'arcade palmaire superficielle). *Rev. de chir.* 9 3, 214, 357.

By Journal de Chirurgie.

The rarity of aneurisms of the palm of the hand, especially of those caused by repeated contusions, is the cause of the author's reporting a case of aneurism of the superficial palmar arch in a man 37 years old who was an assistant gunner's mate.

During his maneuvers in 1911, the patient was several times obliged to strike the breech of the gun forcibly with the palm of his hand in order to open it. He felt severe pain near the inner border of the hand. In three weeks a small tumor developed which in nine or ten months grew to the size of a hazel nut. This tumor which is partly reducible, is pulsating.

Operation local cocaine anesthesia, dissection of the aneurism double ligation of the arch and ligation and section of the first digital artery removal of the aneurism and cure.

Excision, which has been performed successfully seven times, seems to be the only correct surgical treatment.

That this was caused by contusion, as is rarely the case seems indisputable. So this must be considered as an etiological factor in such aneurisms even though there is the history of previous wound as is frequently the case. J. O'NEILL

Freeman Arterio-Venous Anastomosis for Threatened Gangrene of the Foot. *T. Am Surg. J.* p. 3, 31 y. By Surg., Gynec. & Obst.

Following the report of a case in which an unsuccessful attempt was made to check the progress of incipient prænile gangrene of the foot by external of the circulation tentation as called the large proportion of failures in these operations, due perhaps, more to inherent deficiencies than to faulty technique.

A good and permanent result must depend upon the passage of sufficient quantity of arterial blood through the most ramifications of the femoral vein into the capillaries. A certain amount of blood may be secured in doing this (5% to 4%, according to Rothman) but it is more than probable that by far the greater portion promptly returns to the trunk through the numerous anastomotic veins, without reaching the capillaries.

The temporary improvements which have been observed following it no venous anastomosis, such as the return of color and warmth to the affected part, the inhibition of the gangrenous process, and the disappearance of pain and numbness, may be due merely to the passive hyperemia produced by ligation of the femoral vein as suggested by Oppel and by Moskowitz, and not to the reversal of the circulation.

From theoretical considerations and from the result so far obtained in arterio-venous anastomosis for threatened gangrene of the extremities the following conclusions may perhaps be drawn.

Although the procedure is justifiable in a few well-selected cases, it seldom has been followed by success, and even then its real value may be questioned owing to the fact that spontaneous recoveries occasionally occur—with as much frequency perhaps, as do operative successes.

Owing to the uncertainty of the value of the operation, no should at least endeavor to do as little harm as possible. Hence, from this point of view it is better to do side-to-side anastomosis, or to implant the distal end of the vein into the side of the artery rather than to unite the two vessels end-to-end thus preserving to the limb its remaining arterial circulation, however little that may be.

3. According to our present knowledge, operations upon the upper extremities should be con-

sidered with reservation, owing to the comparative frequency of spontaneous recoveries.

Shattuck Occlusion of the Inferior Vena Cava, as Result of Internal Trauma. *Proc. Roy. Soc. Med.* p. 3, v. 10. By Surg., Gynec. & Obst.

The author describes the case of a doctor who when he was 24 years of age, ran several races, in the last of which he held his breath for the entire race of 30 yards in sixteen seconds. Immediately after the race was over he lay on the grass and within a few moments complained of pain in the lumbar-spinal region. He was put to bed where he remained for six months. Edema of the legs and to lesser degree of the abdomen and scrotum, supervened and persisted for the period mentioned. While in bed the superficial veins began within a few days to dilate, and their enlargement slowly progressed. During the rest of his life the distended veins were supported by the systematic use of carefully adjusted elastic pants, reaching as high as the thorax. Albuminuria appeared directly after the event and persisted through life. Death occurred twenty-five years later. During the last six years of his life he was troubled great deal with attacks of phlebitis and thrombosis in the enlarged saphenous veins, these attacks being easily brought on. September 5, 1900, the patient noticed some tenderness and discoloration behind the right internal malleolus this extended to the dorsum of the foot. On the 6th, the temperature was 100° F and he had slight rigor. The next day his throat was sore and this gradually grew worse. He died on October 5 from acute tonsillitis and septicaemia. Autopsy performed six hours after death.

The following is a description of the autopsy findings of the vena cava. The preparation consisted of the superior and inferior vena cava wanting their cardiac terminations. The right axillary vein, the end of which was shown entering the superior vena cava, was considerably dilated. Except for its highest part the whole portion of the inferior vena cava preserved was converted into a flat, imperforable ribbon, which was most contracted and thinnest for a distance of 6.5 cm. opposite to and below the renal veins. Portion had been cut away from the front of the vessel below the veins last named to show that its lumen was completely occluded. The common iliac veins and the parts of the external and internal preserved were likewise flattened and obliterated, though somewhat less reduced in size.

Owing to the presence of internal adherent coagulum the tributaries and trunk of the left renal vein were pervious, although, as tested with the probe the entrance of the latter into the cava was closed the same was true of the trunk of the right renal. The right spermatic vein, as far as its entrance to the cava, was likewise pervious. From the left side of the lower part of the cava there projected the occluded end of one of the lumbar veins of the same side. The upper divided end of the inferior vena cava was pervious, though reduced in size.

It was found during the dissection that the hepatic veins were unoccluded. The return of blood from the kidneys must have taken place through the veins of the capsule and thence by way of the lumbar through the azygos vessels.

The author believes that the occlusion in this case was due to the holding of the breath throughout the race. A localized rupture of the intima or the intima and the media took place, which was followed by forcible extravasation of blood into the walls of the vein while the exertion was still in progress; that the lesion, in short, in the initial stage was the counterpart of dissecting aneurism of the aorta. With the removal of the abnormal pressure further extravasation into the vein wall ceased, the blood coagulated and the lumen was closed later by organization of the blood clot. The paper concludes with a full discussion on action of forced expiration and inspiration on the thoracic contents.

EDWARD L. CORNELL.

POISONS

Crowe. A New Method for the Differentiation of Certain of the Streptococci. *Proc. Roy. Soc. Med.* 93.

By Surg., Guy's & Obst.

The author uses Dorset's medium which is modified by carrying the process through in a sterile fashion and adding neutral red as an indicator (0.005%). The exact method of preparing the medium is given. When colonies are grown on this medium attention is paid to the color of the colony, its shape and the effect, if any, it produces on the surrounding media. The shape of the colony is most important. The consistency of the medium unless just right, will cause changes which prevent the appearance of characteristic colonies. The author describes the various shapes as cottage loaf, broad brimmed hat, draughtsman and flat types. The shape of the colonies is quite consistent but the color produced varies some with the age of the culture. Recently isolated germs give the best results. The value of the medium as a means of differentiation is diminished by the fact that some streptococci do not grow at all. Yet importance attaches to this negative property for the non-growers are chiefly confined to streptococci isolated from septicæmia.

The author places the commoner streptococci in two groups. A, the hung streptococci, B the remaining streptococci. Group A is further subdivided into those which grow on this medium and those which do not. In the former class he places the pneumococcus, *S. mucosus*, *S. epidemicsus* and the *S. mucosus* II. In the latter class are found various other streptococci, among them being the *S. mitis*, *S. mitior*, *S. longus* and *S. brevis*. In group B the division is made on the color produced primarily and secondarily by the difference in shape. Those producing yellow color are the *S. equinus* and several others which are not well known. Those producing the crimson color are the *S. salivarius*,

S. fecalis and the *S. pyogenes*. The characteristic growths of each of these organisms are fully described and well illustrated by means of a color plate.

The author believes that the Andrews-Gordon classification provides a good working basis, inasmuch as the streptococci thus divided present characteristic colonies, but by the use of the neutral red medium further definite subdivisions can be introduced. For instance, the salivarius group should be divided into three further subdivisions, the pneumococcus into perhaps three as well. By his classification he has been able to distinguish the chief varieties which cause arthritis in the human being.

EDWARD L. CORNELL.

SURGICAL THERAPEUTICS

Kömmel. Results of Operative and Non-Operative Treatment of Abdominal Tuberculosis (*Endoreinaler der operativen und nichtoperativen Behandlung der Bauchtuberkulose*). *Zentralbl. f. Chir.* 9, 21, 463.

By Zentralbl. f. d. ges. Chir. 1. Grenzgeb.

Kömmel reports one hundred and twenty-eight cases of abdominal tuberculosis observed since 1895. Eighty-five were operated upon, fifty-six because of general tubercular peritonitis with seven deaths soon after operation, (three complicated by ileus). Nineteen died afterwards of progressive tuberculosis. Thirty cases were permanently cured after 5-14 years, eight cases having been done within the past seven years. Nine operations were for tuberculosis of the cæcum. Three of the patients died of progressive tuberculosis, six are well after 3-9 years. Five operations for tubercular appendix gave two recoveries and three late deaths. Nine operations were performed for tuberculosis of the duodenum, with one death and eight recoveries. Of three patients operated upon for tuberculosis of the mesenteric glands, two recovered and one died.

Thus, after operations for removal of abdominal organs affected with tuberculosis, the author got 53 per cent of permanent recoveries, which is of course, much more favorable result than that shown in general tubercular peritonitis. For the past three years he has treated the latter condition with Röntgen rays, sometimes alone and sometimes in conjunction with operation. Of eighteen patients so treated, four, who were in an extremely advanced stage of the disease died. All the others were favorably influenced. The rays were applied in the same way as for the treatment of myositis, different fields being exposed on alternate days to two-thirds of the dose necessary to produce erythema. A thick aluminium filter was used. It remains to be seen whether Falk's plan of exposing the open abdomen to intense X-ray action during the operation should be followed. As a general rule, Kömmel recommends peritonitis followed by X-ray treatment in exudative tuberculosis and X-ray treatment alone in dry tubercular peritonitis.

ABRAHAM.

Touche Colloidal Calcium in the Treatment of Cancer (Du selenium colloïdal électrique dans le traitement du cancer) *Bull. et mem. Soc. med. de l'Hôp. de Par.* 9 3, xix, 45.

By Journal de Chirurgie.

The author has performed some clinical experiments with lectrocell m. II gave injections of 5 cc. at regular intervals about one week apart. Sometimes there was slight local and general reaction such as is spoken of by all authors but there were no harmful symptoms. It could be balanced the numerous advantages coming from it. Touche tried this therapy on three cancers of the face, two of the tongue, one of the tonsil, one of the thorax, two of the breast, eight cancers of the stomach, one of the intestine, three of the rectum, and one of the peritoneum and four cancers of the uterus. These twenty-seven cases are reported in detail in his communication.

It has been said that electrocution causes epidermalization of epitheliomas of the face that it clears up ulcerating cancers of the tongue and facilitates degeneration that it lessens pain in osteosarcoma that in cancer of the breast it facilitates intervention and hinders the spread that it modifies dyspeptic troubles and decreases intestinal obstruction in cancers of the intestine and peritoneum that it is a great help in cancers of the rectum by drying up the discharges and avoiding involvement of the anus. In cancer of the uterus it is useful in that it causes the patient to think that she is getting better.

In concluding Touche said, "I believe that calcium will remain as a good palliative treatment for cancer."

J. Debove

Loeb and Fleisher Intravenous Injections of Various Substances in Animal Cancer *J. Am. A. Path. & Bacteriol.* 9 3, 117.

By Surg., Gynec. & Obst.

Colloidal copper and colloidal platinum acted in similar manner both inhibited the growth of tumors during the time of injection. Colloidal sulphur if active at all, is certainly not more active than either colloidal copper or platinum. On the other hand easily ionized salts of copper and of lanthanum are without effect on cancer. Combinations of copper with proteid substances are active.

The authors also tested one organic substance which, according to Morgenroth, is very active in preventing pneumococcus infection, namely athylhydrocuprein. They found it without effect on cancer. Of the more complex organic substances they tested the following: various preparations of casein and of nucleoprotein, furthermore, serum globulin, homo-serum, egg-albumin, Witte's peptone, protosin, gelatin, lecithin and starch. Of these various substances only the first two named, casein and nucleoprotein, were effective, while all other substances were entirely inactive. One single intravenous injection of either of these two substances destroyed, in a large number of cases, great part of tumor while repeated intravenous injections prevented the growth of the tumor during

the period of injection. After cessation of the injections the growth started again in the majority of cases either immediately or after a period of latency.

The fact that another entirely different substance, namely leech extract, also exerted a marked action on tumor growth similar to nucleoprotein and casein but acting apparently somewhat more strongly than these latter two substances, seemed to them of great interest. They observed in a number of cases, after intravenous injection of leech extract, even a retrogression of the tumors, while one single injection caused a liquefaction and necrosis of a great part of the tumor. Also combinations of nucleoprotein and leech extract were effective.

It seems, therefore, that of the various proteins, carbohydrates, and lipoids which they have tested so far only the complex phosphorus-containing proteins are active. Of other substances they found leech extract, acid, and among inorganic substances only colloidal metals.

Very young tumors, from two to six days old, do not seem to be as easily influenced as are those from about fourteen days old. Only intravenous injection was effective.

Loeb and Fleisher investigated the action of some of these substances on experimentally produced placentomas in the guinea pig and rabbit. They found usually after one injection of casein some hemorrhages and subsequent necrosis. Colloidal copper seemed so far to be without any marked effect on placentomas. With Leighton they examined the effect of casein and of colloidal copper on wound-healing in white mice. The intravenous injection of these substances had no marked effect on the process of wound-healing.

In order to further study the action of the substances they injected a series of normal guinea pigs intravenously with the various solutions which they had tested in the case of tumors, and found that one single injection of nucleoprotein, and possibly casein, protosin and egg-albumin, caused frequently multiple necroses of the liver. The necrotic areas were usually situated midway between the portal and central part of the acinus. Other substances like gelatin and starch have not so far caused necroses of the liver in their experience. They have not been able to observe these necroses in the liver of the mouse even after repeated injections of those substances.

The authors think it most probable that the various substances which were found active in cancer of the mouse change the capillaries primarily increasing their permeability to the various constituents of the blood.

They reported previously that the intravenous injections of colloidal copper exerted definite action on a number of human cancers provided they had not been growing too rapidly. These injections of colloidal copper as was also stated before can, even in the most favorable cases, at present only lead to a partial retrogression of carcinoma in man.

It is noteworthy that while some cases are affected favorably other apparently similar cases are not, or are very little influenced by these injections. In further experiments carried out in conjunction with Lyon, McClurg and Sweek, the authors found that also intravenous injections of solutions of casein may exert certain inhibiting action on the growth of some carcinomas in man. It is, however, less effective than colloidal copper. In one case of sarcoma of the humerus which they treated, injections of colloidal copper followed by injections of casein produced decided retrogression and partial calcification of the tumor.

Although so far the authors have not noticed that the casein has any injurious effect in patients, their observations regarding the possible production of necrosis of the liver in the guinea pig after intravenous injection of various proteins seem to them to make the use of such proteins in the case of human beings inadvisable at present.

Kausch. On Collargol (Über Collargol). *Deutscher chir. Kong.* 23.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

In general septic conditions with remittent fever Kausch found collargol of Credé to be of distinct value. The author shows a large number of such temperature curves, in which the onset was marked by high fever which later rapidly returned to normal. The regularity of such phenomena speaks against the coincidence of spontaneous fall in temperature and the injection of collargol. More corroborative still are those cases which required repeated injections, because the effect at first was only temporary (five such temperature curves are shown). Little or no result was obtained by Kausch in cases of sepsis with continued high fever (two such curves demonstrated). Only in cases with small pus foci does collargol seem of service — not in the presence of large pus accumulations. Cases are particularly suitable in which the temperature remains high after the opening up of pus foci. (Three such curves shown. Abscess of the neck from diphtheria bacilli, septic conditions of the ear and empyema.) Kausch as yet has not used collargol as prophylactic measure but intends so doing.

He uses the Credé preparation. Intravenous injection is the only rational method per rectum, collargol may be given only when it is impossible or not permitted to inject into the vein. Up to 30 cc. may be given directly into the vein without surgically exposing it. Average dose 10 cc. of 1 per cent solution. In severe cases it may be given daily or so-

30 cc. every other day. The injection must be made very slowly and is then wholly without danger.

Kausch has treated also eleven cases of inoperable cancer with large doses of collargol, up to 100 cc. Some of these cases have received also X-ray treatment. No case was cured however. The patients did not permit energetic carrying out of the treatment. One case of carcinoma of the liver metastatic from cancer of the stomach, showed transitory improvement. One case died three days after injection of 80 cc. and the kidneys were found to be plugged with silver. Autopsy Kausch proposes further to carry work with collargol and other heavy metals in treatment of carcinoma.

ELECTROLOGY

Freyd and Kammer. The Chemical Action of the Röntgen Rays and of Radium on Carcinoma (Über chemische Wirkungen von Röntgen und Radiumbestrahlung in bezug auf Carcinome). *Wien. klin. Wochenschr.* 1913, xvi, 301.
By Zentralbl. f. d. ges. Chir. u. Geburtsh. u. d. Grenzgeb.

The authors applied toxic doses of X-ray and of radium to portions of skin in order to determine the effect the rays would have on the ether-soluble fatty acid found in normal tissues and serum. This fatty acid has prophylactic action on carcinomatous tissue. The results of the experiments follow: toxic doses of X-ray caused the fatty acid normally present to disappear whereas radium liberated an ether-soluble fatty acid from the pathologic nucleoglobulin of the carcinoma when the latter was exposed. Cancer cells lose their power of making use of carbohydrates when the tissues are exposed to radium emanation.

Exposing of skin to the X-rays caused the ether-soluble fatty acid to disappear but exposing the same piece of skin to radium again liberated the fatty acid normally present. The authors believe that the X-rays couple the acid to some substance insoluble in ether whereas radium restores the solubility of the acid by breaking the chemical bonds that unite it with the insoluble substance. These facts may have practical application in cases of X-ray burns etc., where radium treatment may restore the ether-soluble fatty acid that has the power of destroying carcinoma cells. Over-exposure with the X-ray lowers the local resistance and makes carcinoma possible. Radium has this therapeutic value that it robs the injurious substance in carcinomatous tissue of its pathological properties.

LOWELL.

GYNECOLOGY

UTERUS

Geilhorn The Extended Vaginal Operation for Cancer of the Cervix Uteri. *Surg. Gynec. & Obst.* 9 3, xvii, 284. By Surg. Gynec. & Obst.

In cancer of the cervix uteri only extended operations give promise of an improvement in final results. A general outline of the technique of the extended vaginal method as first devised by Schuchardt and later perfected by Schauta, is given. While in America the radical abdominal method is slowly gaining ground the radical vaginal operation is practically unknown. Yet even the most enthusiastic advocates of the abdominal route admit that the high primary mortality of the abdominal operation contraindicates its use in fat women in those beyond the age of 60 and in persons greatly reduced in strength by cachexia, sepsis, or heart disease. In such cases the extended vaginal operation is preferable with its primary mortality of about 5 per cent as compared with the mortality of the abdominal method, which is still in the neighborhood of 15 per cent. The relative percentage of cures, i. e. the proportion between the number of operated cases and those who remained free from recurrence for five years, is substantially the same with both methods. It remains somewhere near 4 per cent.

The systematic removal of the pelvic lymph glands, which at first was considered of fundamental value as to the final outcome, no longer forms an integral part of the abdominal operation. Any previous antagonism between the two methods on this point is thereby eliminated. The operability by the abdominal route is on an average from 10 to 15 per cent higher which is due in part to complications such as pregnancy, fibroid, hernia, and ovarian and tubal tumors, which in themselves would call for abdominal intervention. This increased operability explains the difference in the absolute percentage of cures which, with the abdominal method, ranges between 16 and 27.5 per cent while with the vaginal method from 6.4 to 9.3 per cent of all cases admitted were found cured after five years.

As to the choice of methods, the author concludes that in fat persons, in old women, and in those suffering from cachexia, sepsis, or heart disease the vaginal method is preferable. In very early stages of cancer both methods should be considered on equal terms. In moderately advanced cases the abdominal operation is the method of choice. In far advanced cases no radical operation should be attempted, for the high mortality and morbidity and the large number of recurrences are out of all proportion to the chances for cure. These cases do far better under palliative treatment. The chief

principle of such palliative treatment must be to eliminate sepsis from the ulcerating cancer. The cancer itself grows more slowly and causes comparatively slight symptoms if the mixed infection with streptococci and staphylococci is removed. After all, the solution of the cancer problem will not be found by operative means but along biochemical lines.

Collen The Radical Operation for Cancer of the Uterus. *Surg. Gynec. & Obst.* 9 3, xvii, 285. By Surg. Gynec. & Obst.

Collen sent out letters to surgeons of the South to learn what their experiences had been with the radical operation for cancer of the cervix. Very few had had much experience with the operation and even those who had, rarely kept records of the subsequent history.

The author expressed himself strongly in favor of the radical operation and urged the surgeon to take stock of his post-operative cases at regular intervals so that the final results of the radical operation in America might be available.

If then gave his own results in 49 cases

Immediate deaths	cases
Not located	3 cases
Patients living	14 cases
Remote deaths	cases at
periods varying from	few months to nearly 6 years.

Twenty-six of this number were operated on over five years ago with the following results

Immediate death	7 cases
Not located	1 case
Living	7 or 26.9%

Of the patients now living,

is well	6 1/4 years after operation.
is well	8 years after operation.
is well	8 years and 4 months after operation.
is well	8 years and 6 months after operation.
is well	9 years and 8 months after operation.
is well	9 years and 10 months after operation.
is well	3 years after operation.

In conclusion Collen drew attention to the fact that campaigns having for their aim the education of the family physician as to the early diagnosis of cancer of the cervix and body had yielded little simply because the patients did not come to the physician early. He strongly emphasized the fact that it was absolutely necessary to tell the women of the country that cancer in the early stages was strictly local process and not blood disease and that when taken early could often be totally removed. He said that this information could only be successfully disseminated by the press and

advocated publishing simple and direct articles in the daily press and the weekly or monthly magazines.

Clark. The Radical Abdominal Operation for Cancer of the Uterus. *Surg. Gynec. & Obst.*, 9 3, xvi, 55. By Surg., Gynec. & Obst.

Clark reports 36 cases of cancer of the cervix which have been subjected to the radical operation in the University Hospital. This group of cases has been particularly selected because of the more extensive case histories and the possibility of tracing the final results. Briefly summarized, the results are as follows:

Total number of cases	36
Operative deaths (peritonitis)	3
Died from recurrence in 3 months	1
Died from recurrence in 6 months	3
Died from recurrence in 9 months	
Died from recurrence in 10 months	
Died from recurrence in 15 months	
Died from recurrence in 18 months	3
Died from recurrence in 2 years	5
Unable to trace	7
Alive and no sign of recurrence —	
One year	
One and one half years	8
Three years	
Four years	1
Four and one half years	
Six years	3
Total	— 36

POST-OPERATIVE SEQUELÆ —

Suppuration of abdominal incision	5
Cystitis	4
Peritonitis (recovery)	
Urteral fistula	9
Vesical fistula	5
Phlebitis	1
Laceration of rectum (fistula)	
Pleurisy	1
Rectovaginal fistula	1

These accidents rarely occurred in the advanced cases in which the bladder or rectum were so closely involved as to render them almost unavoidable. Unfortunately one frequently cannot determine before the operation has advanced beyond a point where it is impossible to abandon it, the degree of cancerous extension; consequently all operations for cancer of the cervix must unavoidably be attended with greater risks than in any other gynecological disease requiring hysterectomy.

However in every series of cases thus far reported in which the radical operation has been employed, the surgical mishaps and post-operative sequelæ of greater or lesser extent have been relatively much larger than in the reports of simple hysterectomy cases.

As the matter now stands, the combined statistics favor the further trial and perfection of the radical operation among those who are well prepared to carry it out in the most successful manner. There

can be no middle-of-the-road policy. Either the operation must be extremely radical, with the proportionately higher primary mortality and many distressing sequelæ and with a larger number of ultimate cures among the survivors, or on the other hand it must be a most simple technique with a minimum primary mortality, few sequelæ, and a much smaller curative basis. Because of the difficulty of carrying out the technique of the radical operation, Clark does not believe that it may ever become generally available for the larger number of surgeons. Hence he hopes that some means of simplifying the technique and rendering it less dangerous may be devised. From a review of the literature and from his personal experience he offers the following summary concerning the radical operation.

The operation, in expert hands notwithstanding its high primary mortality has given the greatest percentage of permanent cures of any therapeutic procedure thus far suggested for cancer of the cervix.

1. While the above conclusion is true, the general adoption of the operation, in view of its dangers and difficulties, is not to be advised until the primary mortality can be reduced to much lower percentage by a simplification or perfection of details.

2. The abandonment of the extensive glandular dissection is justified, because this detail adds to the hazards and does not sufficiently raise the percentage of permanent cures.

3. The cardinal advantage of the operation lies, first and above all, in the excision of an extensive cuff of vagina and the widest possible removal of the parametrial tissue.

4. There is no middle-of-the-road policy in cancer of the cervix. The surgeon would better perform a simple vaginal hysterectomy or a high amputation of the cervix with extensive cauterization than to attempt the radical operation if he is not prepared to effectively execute its details.

5. The earnest endeavor by many specialists, with the improved ultimate cures in a few hands, offers the hope that a further simplification and perfection of details in this operation may yet make it more generally available.

Wiebel. The Extended Abdominal Radical Operation for Cancer of the Uterus. *Surg. Gynec. & Obst.*, 9 3, xvi, 571. By Surg., Gynec. & Obst.

The radical operation of Wertheim according to Wiebel, is characterized by the following two points: It offers the widest excision of the parametrium and the removal of the pelvic glands. In order to remove as much parametrium as possible it is necessary to expose the ureters and to push them far away as a preventive measure.

The technique of the operation is as follows: Scraping and cauterizing of the cancer immediately before operation, without anesthesia, to save the patient's heart. Trendelenburg position. Incision in the median line. Wide separation of the bladder

from the uterus and vagina, tying of the inferior pelvic and round ligaments, dividing the two layers of the broad ligament. The ureter is exposed up to the entrance into the parametrium without isolating it. Here the ureter is crossed and covered by the uterine vessels. The index finger is pushed through the parametrium between the ureter and vessels, thereby isolating the latter. By this means the ureter is protected during the ligation of the artery and vein. The whole pelvic portion of the ureter thus becomes so accessible that it is easy to complete its separation. Separation of the rectum from the vagina is the next step.

Wide excision of the parametrium follows, after putting on bent clamps for the prevention of hemorrhage. Two strong clamps are then applied to the already isolated vagina, so that the cancerous tissue is completely enclosed, thereby preventing its dissemination after the opening of the vagina.

The next step is the removal of the lymph glands. They lie along the common iliac, the external, and the hypogastric iliac, and in the trigonum between both, also downward to the obturator foramen and high up as far as the division of the aorta.

The pelvic wound is always drained by iodoform gauze and the peritoneum is closed carefully. But if there is not enough peritoneal material, or if this is infected, one should refrain from the complete closure of the peritoneum.

The freeing of the ureter in this operation is a very important part. Sometimes it is necessary to literally dig the ureter out of the cancerous tissue. Microscopic examination shows that cancer involves the ureter very seldom and very late, and therefore it seems justifiable to free it, even when buried in cancerous tissue instead of resecting and later implanting it in the bladder. In a small percentage of cases, about 5, it seems advisable to resect the ureter. A retro-vaginal fistula forms in a certain percentage of the cases, due to necrosis of the ureteral wall but the majority of these close spontaneously.

The bladder is frequently involved and attached to the uterus, and resection is sometimes necessary. The rectum is rarely involved and its resection is very seldom required.

The after results of the operation show that, of the 380 cases which passed the necessary five years following operation before being allowed to figure in the result, 8 died of intercurrent diseases, and 60 remained well and free from recurrence. Thus the percentage of cure in cases operated upon is 43. If the primary deaths are left out, as they should not figure with respect to after results, the percentage of patients cured is 53. J. H. SMITH.

Sampson Result of the Radical Abdominal Operation for Cancer of the Uterine Cervix.
Report of 25 Cases. *Surg., Gynec. & Obst.* 9 3, xvi, 304.
By Surg. Gynec. & Obst.

Since the spring of 1905 the writer has operated upon 3 patients by the radical abdominal opera-

tion for cancer of the cervix. Some of the pelvic lymph nodes were removed in the operations, and these were examined microscopically in all but one instance. Metastases were found in one or more nodes in 7 of the 3 cases.

Five patients died as the result of the operation, 4 of these were advanced cases. In the author's experience, the operation in the favorable cases is attended with a very low primary mortality, the high primary mortality occurring in the border-line and advanced cases.

As to the end results (five-year limit) 8 of the 25 patients were operated upon over five years ago. Two of these died as the result of the operation; a third died later from recurrence; and 4 are clinically free from cancer at the present time, i. e. 4 out of 8 cases operated upon, and of 6 surviving the operation.

The patients dying from recurrence were both young women, averaging 3 years, who had never had children. The type of growth was inverting, arising from the portio vaginalis, the cases appearing favorable before the operation. Both died from extension of metastasis in accessible iliac lymph nodes. A small recurrence in the field of operation was present in one.

The four apparently free from cancer five years or more after the operation (two nearly seven years) had an average age of 45+ years, three had borne children, the other had not. The type of growth in three was inverting, arising within the cervix, in one inverting, arising from the portio vaginalis. Three of the four appeared unfavorable before the operation. Only one were the accessible pelvic lymph nodes removed, and cancer was found in one of these.

Need Results after the Wertheim Operation for Carcinoma of the Uterus. *Surg. Gynec. & Obst.* 9 3, xvi, 293.
By Surg. Gynec. & Obst.

Since 1900 the extensive abdominal operation has been employed in practically all cases of carcinoma of the cervix. The percentage of operability for the last five years has been 54. During the last 5 years the radical abdominal operation has been performed in 36 cases in 70 cases, period of five years or more has elapsed. Excluding the number lost track of (9 cases) the percentage of permanent cures is 53.3. The primary mortality for the last five years has been 7 per cent. Excluding the number of primary deaths, the number dying from other causes, and the number lost track of the percentage of permanent cures is 55.

The author reaches the following conclusions:
The extensive abdominal operation for the removal of all uterine cervical carcinoma is justified here there is any hope of complete removal.

An exploratory laparotomy is often necessary to determine whether or not a case is operable.

3 The preliminary catheterization of the ureters is advisable and, especially in fat patients, and does not necessarily increase the probability of fistula or secondary infection of the urinary tract.

4. Preliminary cauterization and disinfection of the primary growth is advisable in all cases.

5. A horizontal lipectomy in obese patients decreases the depth of the field of operation and shortens the time necessary for its completion.

6. The present operative facilities and technique do not justify an extensive resection of the lymphatic glands on account of the great increase in the primary mortality following such a procedure.

7. All patients should be kept in the Fowler position for several days unless this is otherwise contraindicated by symptoms of surgical shock.

8. By improvements in the technique of the operation, the primary mortality has been decreased from 18 per cent for the first seven years to 7 per cent for the last five years.

9. Aside from the discovery of the etiological factor of carcinoma of the cervix of the uterus and its successful elimination, the greatest hope lies in the early recognition of the primary growth.

Pollomon and Violet The Study of Six Cases of Malignant Chorio-Epithelioma. (*Étude sur six cas de chorio-épithéliomes malins*). *Lyon chir.* 9, 3, 12, 33. By *Journal de Chirurgie*.

In connection with six personal cases, the detailed observation of which can be found in their original article the authors recall the principal points in the history of these tumors. Their origin to-day is no longer discussed. They are characterized by proliferation of the epithelium of the chorionic villi, Langhans and syncytial cells. The term deciduoma¹ therefore should be abandoned and should be replaced by chorio-epithelioma.

These chorio-epithelioma always follow pregnancy either normal (2 per cent according to Briquet statistics of 7 cases) or abortion (33 per cent) or frequently a hydatiform mol (41 per cent) or even, though rarely a tubal pregnancy (per cent). The personal cases of Pollomon and Violet confirm the frequency of the presence of a mole at the site of origin of chorio-epithelioma (four out of six cases). The development of the malignant tumor is not however necessarily the outcome of molar pregnancy nor is it even very frequent termination, since Semarchus only found three chorio-epithelioma in forty-nine molar pregnancies.

The tumor lodges on a level with the zone of implantation of the placenta. It is sometimes pedunculated (polypoid form) and sometimes intramural (interstitial form). Both types have been observed by Pollomon and Violet. The number and size of these tumors is variable. The constant presence of hemorrhagic foci gives them very distinctive truffled appearance. They are soft and very friable.

Propagation is affected solely by the hematogenous route the neoplastic buds have tendency to rapidly invade the veins. The lymphatics are practically never involved. On the other hand, metastases are frequent and of rapid growth, especially in the lung and secondarily in other viscera

(the liver kidneys, spleen, brain, etc). Special mention must be made of vaginal metastases (from retrograde venous emboli) which are not at all rare, and of which the authors report an example.

The most constant and characteristic symptom is hemorrhage which is differentiated from the ordinary metrorrhagia following abortion or labor by its abundance and long duration. It leads frequently to a state of profound anemia, and true cachexia. It can also be accompanied by infection with fever chills and bloody discharge. The uterus is large and irregular in outline like a fibromatous uterus. Yet this enlargement is not always great, and certain cases are recognized only by intra-uterine exploration (touch, curettage, and microscopical examination of curettings).

The prognosis is very grave, in spite of the fact that certain cases have been known to recover spontaneously. The only treatment is hysterectomy. Pollomon and Violet have used the abdominal route in all their cases and in one of them they dissected out the uterus from secondary foci surrounding them at the base of the involved broad ligament. The operative mortality is low.

The ultimate results are encouraging according to the observations of the authors, who have four patients in good health after five four and three years. No patient of Nove-Josseland remains free from recurrence twenty years after operation.

CHE LEBLANCANT

Miller The Relation between Sarcoma of the Uterus and its Bearings on X Ray Therapy of Uterine Myomata. *Surg., Gynec. & Obst.*, 9, 3, 31, 35. B. Surg. Gynec. & Obst.

In this paper the author takes up the following questions—

What percentage of myomata are found to be sarcomatous?

2. What is the primary operative mortality of the radical myoma operation?

3. What is the primary operative mortality in sarcoma cases? What is the percentage cured?

4. What per cent of sarcomata can be diagnosed? That is, if they all come to us in consultation, what per cent should we not treat with X-rays?

Thus the argument here introduced is in reply to opponents of the X ray therapy who Miller thinks have painted very black pictures of the heavy responsibility that the X-ray therapeutists take upon themselves.

Figures have been taken from the literature presenting reports of continuous series of cases among which the search for sarcoma was made, from which statistics the first question is answered with per cent.

A second table is a compilation representing radical operations such as are usually done in myoma cases, showing the primary mortality of the radical myoma operation to be between 4 and 5 per cent.

A third table based upon the study of 80 cases

from the literature, is offered in reply to the third question. Where this same radical operation is performed, a certain cure of more than 5 per cent at the worst cannot be assured.

Miller sees little or no progress being made in diagnosis, sarcomatous degeneration being almost impossible in the early stages, and microscopic examination being reserved until the case becomes suspicious. Of the 80 cases from the literature he has selected those which satisfy the conditions of (1) a radical operation and (2) a microscopic corroboration of the diagnosis or a history of subsequent recurrence or metastasis. Nine of these cases were thrown out because of poor histories and findings. These cases were then presented to Krong, who answered the question whether or not he would subject each case to X-ray treatment, using the indications which obtain in the Freiburg clinic as given in the monograph of Geise and Lembcke.

The results of the consideration of these 80 cases are as follows:

Of 80 cases, 55 or 68.75 per cent, would receive X-rays, 6, or 7.5 per cent, would not receive X-rays, 9, or 11.25 per cent, unknown.

(1) Of these 55 cases which would have received X-ray treatment, 7 or 12.7 per cent, under the operative treatment, were reported more than 3 months later as free from recurrence, 24, or 43.6 per cent, died following operation or from recurrence, 24 or 43.6 per cent, were not followed over one year.

(2) Of the 6 cases which would not have received X-ray treatment, 24, or 4 per cent, were reported over months later as cured, 5 or 44.8 per cent, died following operation or recurrence, 50, or 43.6 per cent, unknown.

(3) Of the 9 cases where answer was impossible, were alive over one year, 3 died following operation or recurrence, and were not reported.

4. If we consider the different kinds of sarcoma separately the following figures are obtained. There were 74 out of 80 reported as interstitial in origin, of which 3 would have received X-rays, 39 would not, and 5 were doubtful.

(4) Of the 3 which would have received X-ray treatment, 3 were free from recurrence after months, 6 died, and 3 were not reported.

(5) Of the 39 which would not have received X-ray treatment, were free from recurrence after 3 months, 8 died, and 9 were not reported.

(6) Of the 5 doubtful cases, 1 lived over year, died, and was not reported.

5. Only 3 out of 40 sarcomata of the uterine mucosa would have received X-ray treatment; 36 would not, and case was doubtful.

(7) Of the 3 cases which would have received X-ray treatment, lived over a year, died, and was not reported.

(8) Of the 36 cases which would not have received X-ray treatment, 1 lived over year, 6 died, and 4 were not reported.

4. Of the 66 cases in which the origin of the sarcoma was not designated, would have been rayed, 4 would not, and 5 were doubtful.

(9) Of the 51 cases which would have received X-ray treatment, 4 were free from recurrence over one year, 7 died, and 10 were not reported.

(10) Of the 40 cases which would not have received X-ray treatment, 5 were reported well after one year, 6 died, and 10 were not reported.

(11) Of the 5 doubtful cases, was alive after one year, and 4 died.

Miller admits that, of the 55 cases which he would have treated with X-rays, 7 probably would have died under that treatment, whereas they were reported after one year as cured. He is satisfied, however, at such small loss when he considers the high mortality and poor end results of the operative treatment. Of the 74 interstitial sarcomata, 39 would have been rayed that is, mistake in diagnosis in 43.8 per cent of the cases. Now allowing such a percentage of error and assuming two sarcomata among 100 myoma cases, the author argues that therefore, in 125 myomata, one, through failure in diagnosis, would be subjected to X-ray treatment, mortality of 0.8 per cent, corresponding exactly to the experience in the Freiburg clinic. Here, during 8 months, 5 sarcomata appeared among 60 myoma cases. These 5 cases are reported in detail. During the preceding 53 months 47 myoma cases were treated entirely by X-rays and 38 cases have been subsequently so handled. None of these has thus far shown signs of malignancy.

The author then calls attention to the destructive action of the X-rays on carcinomatous and sarcomatous growths in general, as result of which he claims the right to use the X-ray treatment conditionally in uncertain cases, later undertaking operation if necessary without undergoing any great difference in the chances of cure. In closing he says:

When the public learns that not every tumor of the uterus demands operation, but that there are also efficient conservative methods, we shall certainly be in a position to get hold of more malignant growths in the curable stage.

In view of the above facts I believe there can be no further doubt that a routine operative treatment of myoma of the uterus, for fear of sarcomatous degeneration, need not be carried out. This ghost should be buried once." CARRY COLEMAN.

Fleischmann: Surgical Treatment of Myomata
(Review der operative Myombehandlung). *Wien. Med. Wochenschr.* 1913, XLV, 445.
By Zentralbl. f. d. ges. Gynek. u. Geburtsh. u. Gynäk. d. Grenzgeb.

The author refers to 51 cases of operated myomata with mortality of 3 per cent, abdominal total extirpation had mortality of 5.3 per cent, the supravaginal amputation 0 per cent, the abdominal conservative operations 6 per cent and the vaginal operation of per cent. The method of choice in the laparotomies was the supravaginal amputation which was performed 4 times. The special points

in the technique are (1) the cervical stump must be as small as possible (2) separate ligation of vessels must be performed to ligature en masse (3) formation of a good anterior peritoneal flap is necessary (4) the cervical canal is always left open. Radical extirpation was indicated in cervical myomata, in myomata with necrosis and suspicion of malignancy and in cases complicated with severe infectious processes in the pelvis. Vaginal drainage was rarely employed. The peritoneum must be carefully closed without leaving any cavities over the vaginal edges. Two cases died from embolism of the pulmonary artery two from acute purulent peritonitis and one from a weak heart two hours after the operation. The low mortality of a per cent the writer hopes further to reduce by the X-ray treatment in a correct selection of cases. The objections that the cases of myomata subjected to operation had been selected ones is refuted as he operated on every case needing surgical help excepting only one case in the

ages was found negative, would be then empirically cauterized?

BYRMAN stated that one of the chief objections he had to this method was the indefiniteness in regard to the kind of dysmenorrhea and the condition of the nose. As he understood, there had been no study made of the kind of dysmenorrhea to be helped. There were no lesions of the nose except during the menstrual period or when congestions occurred during the menstrual period and they were usually regarded as a result and not as a cause of something and when women had pain in their breasts every month, the breasts were not treated thinking that would cure any disturbance in the pelvis. There were a good many kinds of dysmenorrhea, one of which had not been described, namely nervous dysmenorrhea. He was willing to concede that the treatment outlined by Brettauer would help patients who had this form of dysmenorrhea.

MILNER reported that he had found many cases of serious local irritation in the nose where the central nervous system seemed to be in state of aggravation or irritation as a result with phenomena in other parts of the body being created, and when that irritation in the nose was relieved the other symptoms or phenomena disappeared.

BRETTAUER, in closing said, in answer to Dudley's question, that he would by all means touch the nose in the absence of any pathological condition in the nose and the pelvis. He would do so as an experiment, as it could do no harm.

Murphy Description of Murphy Method of Abdominal Hysterectomy *Surgical Clinics of John B. Murphy 1913, 2, No. 2.*

By Surg., Gynec. & Obst.

Having occasion to perform hysterectomy for essential hemorrhage, Murphy described his method, which originated ten years ago and which he is convinced has many advantages over the usual methods. By the anterior route there is danger of injury to the ureters, also of secondary hemorrhage from slipping or loosening of a mass ligature.

The technique of the posterior operation follows: After aseptic preparation and with the patient in the Trendelenburg position, a vertical incision 5 to 6 inches long is made through the inner border of the sheath of the left rectus. The fibers of the muscle are displaced outward with the handle of the knife and the peritoneum divided on the slant between two forceps. The uterus and adnexa are examined to determine the amount of adhesions, etc. The peritoneal cavity is protected by isparotomy pads. Adhesions, if any between uterus and surrounding structures, are separated. Control of the uterus is secured by a large volsellum forceps a corkacrow which is inserted deep into the upper portion of the myometrium. The uterus is drawn out with its posterior surface uppermost. Long, heavy hysterectomy clamps are now applied to the broad ligaments close to the uterus, the blades extending

Brettauer Further Report of Cases of Dysmenorrhea Relieved by Nasal Treatment. *T. Am. Gynec. Ass., 215, May* By Surg., Gynec. & Obst.

BRETTAUER said after an experience of two and one half years with the nasal treatment of dysmenorrhea, the final results showed that in about one half the number of cases so treated, the results were favorable. In some cases the benefit was temporary requiring another course of nasal treatment. In other instances the relief was prompt and permanent after three or four caustic applications to the nasal spots during a menstrual interval. In his paper he reported 66 cases so treated.

MILNER stated it had been his privilege to see these cases reported by Brettauer and also quite a number of others which he had not seen fit to include in his report, because he was not aware of some of the conditions presented. Some of these cases were patients of his own. In following out the treatment of these cases, occasionally a young woman would come to his office with intrauterine difficulty and naturally being interested in the question of painful menstruation, he elicited from some of them that they had suffered a great deal, and following treatment of the nasal conditions he was able to benefit them, so that his own statistics which he hoped to publish later would be more favorable than those of Brettauer although it must be said that he put his patients through a very severe test and did not accept his conclusions until he had seen the patients themselves.

As to amenorrhea, he had had several young girls who had not menstruated at all for three or four months, but after applications to the nose, menstruation became established.

DUDLEY asked if he understood the author of the paper to say that this cauterization treatment of the nose should be used in all cases in which there was neither pelvic nor nasal lesions. In other words, if examination of the pelvis and of the nasal passage

down to the corporocervical junction, but not including the uterine arteries. There is no danger of injuring the ureters in this step if care be taken to place the ends of the clamps in direct contact with the uterus, above the level of the arteries. If the tubes are diseased, they are removed with the uterus by dividing the mesosalpinx before applying clamps to the ligaments. If healthy, however, their uterine ends may be included in the forceps and both tubes allowed to remain. In patients who have not reached the menopause, the ovaries, or at least one, should always be retained. Even when both ovaries are diseased, it is possible, by resection, to preserve a portion of one or of both. The broad ligaments are divided with the scissors $\frac{1}{2}$ inch to the inner side of the clamps and the uterus, which is now liberated from its lateral attachments, and is rotated down and forward. This brings the posterior surface well into the field.

A transverse incision is made with the scalpel into the posterior wall of the uterus at the corporocervical junction, and the cut edge of the peritoneum secured with artery forceps. This incision is directed forward and slightly down as far as the cervical canal, and then little up and forward toward the bladder until two thirds of the anterior portion of the cervicocorporal muscularis is divided. The vesicellum is then placed on the cervix and firm traction made. The uterine arteries peel away from the muscularis, come into view on each side and are secured with forceps before they are cut. If not plainly visible no time is spent looking for them. From the level of the canal the incision is continued through the cervical tissue, the operator drawing the uterus forward as he proceeds and rolling it away from the anterior peritoneum and bladder. In this way peritoneal flap is formed sufficiently large to cover the cervical stump. If the arteries are not clamped before they are divided, the assistant grasps them when they begin to bleed while the operator continues his incision. Once the uterine artery is exposed on either side no further cutting in lateral direction should be done. The ureter always rests just to the outer side of the artery. Each uterine artery is ligated with No. 3 plain catgut, and the hemostats removed. The wedge-shaped gap in the cervix is closed with interrupted catgut sutures, which approximate the cut surfaces but do not include the peritoneum.

The broad ligament stumps may be treated in two ways: (1) By ligation *en masse* which is exceptional with Murphy. (2) By ligation of the individual vessels. The latter he considers preferable. When the mass ligation is used, it should be tied in the crease produced by the clamp, for the following reasons: (1) The compression of the clamp forces out all the fatty and areolar tissue, leaving nothing but vessels and peritoneum in its grasp. (2) The clamp acts as an angiotribe by injuring the intima of vessels and thereby favoring clot formation. (3) The ridge of tissue between the crease and the cut edge of the ligament prevents the ligature from slipping.

Commencing with the broad ligament stump on one side, a purse-string of catgut is inserted around it and the stump buried beneath the peritoneum. The same suture is used as continuous Lembert, to approximate the anterior vesico-uterine flap to the posterior edge of peritoneum. When the broad ligament stump on the opposite side is reached, it is buried in the same manner. By this continuous stitch all abraded surfaces are completely buried and nothing is exposed but the line of suture. Blood-clots are removed by dry sponging and the pads are counted as they are taken out.

The sigmoid is turned down and placed over the line of suture, in order to prevent the omentum from becoming adherent. This is of the greatest importance in all pelvic operations, as the omentum, fixed in this situation, may give rise to much suffering afterward. After drawing the omentum over the small intestine, the abdomen is closed by suturing separately the peritoneum (making the usual ectropion of its cut edges) fascia of the rectum, and skin. Heavy catgut is used for buried sutures, and horsehair for skin. Figure-of-8 silkworm-gut sutures are then inserted through the skin and fascia, to insure against separation of the wound in case the catgut is prematurely absorbed, and to obliterate dead spaces. Under the figure-of-8 stitch is placed a small gauze sponge to act as a buffer preventing transverse necrosis of the skin.

The advantages of the Murphy method are as follows: 1. The tumor and uterus can be removed about as readily and as rapidly as an ordinary ovarian cyst, the average time for the entire operation being fifteen to thirty minutes. Most of the time is consumed in covering the abraded surfaces with peritoneum. 2. Danger to the ureters is reduced to the minimum by rolling, instead of cutting the uterus out of the surrounding connective tissue, following the lines of cleavage. 3. There is practically no danger of secondary hemorrhage, as each vessel is ligated separately. L. J. MITCHELL.

ADnexAL AND PERIUTERINE CONDITIONS

Gossel and Masson. Neuro-epithelioma of the Ovary (Névro-épithéliome de l'ovaire). *Rev. de Gynéc. et de Chir. abdom.*, p. 23, 1.

By Journal de Chirurgie.

The authors report a curious case of ovarian teratoma which from the appearance and character of the cells seemed to be formed entirely of nervous tissue. The patient, aged 50 years, was operated on by Gossel, partial hysterectomy being performed and an ovary diagnosed as cystic, removed. The patient went into collapse and death from shock followed eight hours after. The tumor which was the size and shape of a turkey's egg and covered by hardened tunica albuginea and some cortex, consisted of eight small cysts about which there was a caplain consisting of cords of greater or less thickness which were richly anastomosed. The fact that there were no new-formed blood vessels and

that the tumor derived its blood supply only from the vessels pre-existing in the ovarian stroma, prove that this is not sarcoma. These facts, together with the character and location of the cysts, point to its being an epithelioma. The arrangement of the cells in rosettes and their transformation into fibres was typical. The rosettes were pathognomonic, being exactly like those found in the medullary cord of the embryo both cytologically and histologically. They were identical with certain ependymal cysts frequently found in teratomata in general and especially in the complex dermoid cysts of the ovary.

The authors think their specimen which contains indisputable ependymal cavities is composed largely of young cells which reproduce the conditions found in the embryonal nervous tissue when the neuroblasts and neuroglia cells are beginning to be differentiated. They propose to classify this as an embryonal neuro-epithelioma. The exact origin of this tumor is hard to find. The normal ovary contains sympathetic nerve elements. The nervous elements indispensable for the origin of the tumor were of course typical and might be the remnants of some embryonal rest or inclusion the other parts of which have entirely disappeared, or perhaps to the invasion of nervous elements. **GROVER LARRY**

MORITZ On the Nature of the So-Called Ligaments of Mackenrodt. *J. Obst. & Gynec. Br. Emp.* 9 3, 222, 35. By Surg. Gynec. & Obst.

Moritz has cut sections at various levels and in different directions of female pelvis, fixed and hardened in formalin soon after death. These he has traced in series and has also examined microscopically some sections of fetal pelvis. In no section did he find a separate area of tissue with definite insertions as described by Mackenrodt, nor is there a weak small center of areolar tissue between the folds of the broad ligament. It is artificial and wrong to define the lower limit of this as different from the upper. It is obviously an anatomical error and misleading to describe as a separate entity a few bands artificially separated from the remaining parametric tissue.

CARRY CULBERTSON

EXTERNAL GENITALIA

Spaulding Vulvo-Vaginitis in Children. *Am. J. Dis. Child.* 9 3, 245. By Surg. Gynec. & Obst.

This is report of the work done in the Children's Hospital in Boston under the direction of Lucia. The purpose of the article is to emphasize the following five things:

The prevalence of the gonococcus as an etiologic factor in cases of vaginitis and the unreliability of bacteriological examination in all stages.

The total duration of the disease including the long periods of latency.

The importance of the disease on account of the serious complications and sequelae.

4. The inefficiency of treatment at the best.

5. The consequent importance of prophylaxis both at home and in the hospital.

Etiology. There is a wide difference of opinion as to the per cent of cases of vulvo-vaginitis in infancy and childhood caused by the gonococcus. The bulk of opinion, however, seems to be that most of the cases are due to this organism.

As to the source of infection it would seem that most cases are infected in the hospital and schools and that there is a direct carrying of the organism from one child to another by the use of hands, by thermometers, toiletts, baths, etc. Although many have thought that after a prolonged period of freedom from the disease the recurrence was due to a fresh infection, Spaulding is not convinced of this. Recurrences occurred in her series at 4, 6 and 8 months and even a year to a year and a half. The average total duration of the disease in 26 cases was year and 8 months. Several children who came to the clinic when it started 2 1/2 years ago were later treated for recurrence.

Complications. The following complications have been observed in 74 cases: proctitis, 6 cases; cystitis, 5 cases; arthritis, 4 cases; pelvic peritonitis, 1 case; inguinal adenitis with suppuration, 1 case; vulvo-vaginal abscess, 1 case; ischio-rectal abscess, 1 case.

Treatment. The directions usually given to the mother in the treatment of these cases are as follows:

A vaginal douche of quart of saturated solution boric acid three times a day and the installation of argyrol 5 per cent, or another silver salt, 1:1000 into the vagina three times daily. Gonococcic vaccine once a week beginning with doses of 50 million and increasing 5 million up to 400 million.

The vaccine treatment is believed to be of some value in shortening the course of the disease. Auto-genous vaccine together with gonococcic vaccine has not given favorable results. By way of prophylaxis the author recommends the three most important items of routine which have been carried out in the Babies Hospital of New York: (1) Vaginal smears are made once a week throughout the hospital period. (2) Individual thermometers are maintained as well as individual bottles of petrolatum for lubricant. (3) the disinfecting of urine hands in going from one case to another is carried out.

The arrangement is recommended which is carried out in Chicago at the Juvenile Home, and at the children a venereal ward at Cook County Hospital. The following conclusions are drawn:

That all cases of vaginitis with persistent discharge, which at any time has been profuse are due primarily to the gonococcus.

2. That the disease may extend over many years, during which time there may be many recurrences and the period of latency may at least be as long as 8 months.

3. That vulvo-vaginitis in children, although it may remain a local disease is liable to the same complications as seen in adults.

4. That the most efficient treatment does not insure permanent cure.

5. And, finally that physicians should realize the importance and prevalence of the disease and institute strict preventive measures, both in hospitals and in private practice.

CLYTON G. G. WILK.

Ward: Operation for the Cure of Rectocele and Restoration of the Function of the Pelvic Floor. *T. Am. Gynec. Ass.* 30, 3, May.

By Surg., Gynec. & Obst.

This operation according to the author is especially applicable to cases of large rectocele. The conditions present in a rectocele were the same as in cystocele. There was true hernia or prolapse of the rectum just as in the bladder. Likewise the bowel had been enlarged and pouches by distention, so that there existed an actual increase in size of the gut similar to the condition at the base of the bladder in cystocele. The same principle was applied in this operation to cure the rectocele as was employed in the modern radical operations for the cure of cystocele: the rectum was completely separated from the entire posterior wall of the vagina and was placed higher up in the pelvis.

The author described the operation and gave the technique used by him in perineorrhaphy.

MISCELLANEOUS

McDonald: The Treatment of Leucorrhoea Due to Gonococcus Infection. *Am. Med.*, 913, 112, 57.

By Surg., Gynec. & Obst.

The essentials in treatment are free drainage and germicidal applications. Drainage is obtained by the electric thermocautery (fine pointed loop at red heat) or 30 punctures in the cervix are made about one third of an inch in depth in the middle of the menstrual mouth. This method gives free drainage to the cystic collections and it is usually necessary in rare cases to repeat the operation, 1 most three times. Douches of 1:1000 of the 50 per cent oily solution of chlorometakresol are given and applications of tincture of iodine by swab are made to cervix and by probe to the ducts of the glands. After the puncture wounds are healed an alkaline douch of soda bicarb. (oz.) and soda sulphat. (dr.) to two quarts of hot water is used. Along with the above, general hygienic methods are carried out.

EDWARD CART

Polak: The Conduct of Gynecological and Obstetrical Operations in the Presence of Acute Chronic Endocarditis. *T. Am. Gynec. Ass.*, 30, 3, May.

By Surg., Gynec. & Obst.

Polak in summarizing his experience in gynecological operations, concludes: That pelvic

conditions, necessitating operation, may be done after proper cardiac preparation. 2. That the cardiac symptoms, blood pressure, and the functional activity of the liver and kidneys were the only indices of when it was time to operate. That these cases should always be seen and treated in conjunction with competent internist. 4. That operation should be rapid, bloodless and done under combined local and general anesthetic morphine, novocaine, ether and oxygen. 5. That the Trendelenburg posture should be used until such time as the field might be properly isolated, when the patient might be gently lowered out of it. 6. That phlebotomy should be done promptly on signs of right heart engorgement. 7. That post-operative distention must be avoided. 8. That morphia was the mainstay in these patients.

Krömer: Etiology and Treatment of Pyelitis in the Female (Ursprung und Behandlung der Pyelitis beim Weibe). *Deutsche med. Wochenschr.* 37, 22, 481.

By Zahnkbl. f. d. ges. Gynec. Geburtsh. u. d. Gynäk.

After giving historical data Krömer enters into the etiology and agrees with Stöckel that during pregnancy an ascending form of cysto-pyelitis almost always is present. This is contrary to the French investigators, who accept a hematogenous etiology. Retention of urine is necessary for the establishment of the first attack of pyelitis. Reasons for this view are: (1) pyelitis frequently arises on the right side corresponding to the dextroversion of the uterus during pregnancy; (2) ureteral obstruction is followed by urinary retention, then bacteriuria and finally pyuria; (3) relieving the urinary retention by making the ureter passable causes a disappearance of all the signs of the infection; (4) after injury to the ureter or secondary ureteral necrosis, the corresponding kidney sooner or later becomes diseased by an ascending pyelo-nephritis. According to these viewpoints, the treatment must be directed so as to render the ureter passable. This is effected by the patient turning or lying on the opposite side, by ureteral catheterization and by irrigation of the pelvis and the kidney with disinfectants. Based on a series of cases, Krömer recommends the careful irrigation of the pelvis of the kidney. These measures, however, are only of benefit for each attack of pyelitis, permanent results after renal pelvic irrigations are rare. For recurrent cases he highly recommends vaccine treatment. He had three brilliant results amongst five cases thus treated. Finally he discusses the hematogenous origin of pyelitis after severe postpartal infections, stigma gastro-enteritis and colitis. Lymphatogenous infections after retroperitoneal phlegmons of the pelvis were also observed.

RUDEMAN.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Engelhard Psychoses of Pregnancy and the Influence of Pregnancy on Existing Psychic and Neurologic Diseases (Over Generenspsychose en des invloed der Gestatieperiode op reeds bestaande psychische en neurologische ziekten). Nederl. Tijdschr. Verlosk. en Gynaec. 9 3, xxi, By Zentrallbl. f. d. ges. Gynaek. u. Geburtsh. u. d. Grenzgeb.

After a detailed description of fifty histories of the disease from the Utrecht clinic and critical discussion of the literature concerning pregnancy psychoses the author arrives at the following conclusions. The causes for psychoses of pregnancy may be hereditary taint, an infection or exhaustion. A definite cause can usually not be demonstrated. Severe psychic disturbances are found in eclampsia after recovering from the coma. These at times assume the character of a true psychosis on account of the influence of an infection, the insufficient excretion of the toxines. A connection between the appearance of the psychoses and the retention of urine can usually be proven. Psychoses during labor arise from psychic predispositions, toxines or hypersensitiveness. These psychoses have an important forensic significance, just as painless labor does. Artificial interruption of pregnancy in psychosis is wrong and dangerous. It is negative in its results as a prophylactic measure for the prevention of psychoses. Psychoses complicated with an albuminuria of pregnancy must be considered as a contra-indication to the induction of an abortion. The treatment of pregnancy psychoses must be as conservative as possible. During labor and before complete dilatation interference should be rendered only if symptoms are present which point to threatening eclampsia. STRAUSS.

Harrison Myoma and Pregnancy: the Therapeutical Indications. Va. M. Semi-Monthly, 9 3, xxi, 60 By Surg., Gynec. & Obst.

In this article the author discusses the complications and treatment he believes should be considered in cases of myomata-complicating pregnancy. These tumors cause actual earnest danger only in few cases and these may be considerably diminished by a cautious clean management of the labor and the puerperium. On the other hand Bland-Sutton believes that the life of the woman is in jeopardy not only so long as the fetus is in the uterus but during the expulsion also.

Myomata situated in the lower uterine segment while usually offering an obstacle to the birth of the child, may be drawn upward during labor and leave the pelvis free. Operative intervention is indicated when the tumor is fixed so as to offer an obstruction

to the passage of the child. During the pregnancy the author advises expectant treatment as a rule but when something definite must be done, he suggests interruption of the pregnancy or Caesarian section at term. The former is often very difficult for the placenta may be firmly adherent or the fetus may be passed after a long time during which fever and degeneration of the myoma with sepsis may follow. Myomectomy does not offer a perfect solution of the difficulty for a small myoma left at the time of operation may grow to large also before the termination of the pregnancy. When labor sets in, however, our attitude must still be an expectant one, but when it is seen that the tumor does not move upwards with the unfolding of the cervix, Caesarian section should be done. Once, for the forcible attempts to drag the child through the pelvic canal past the fibroid may so injure the tumor as to cause it to slough. If the fibroid be single it may be enucleated, or if multiple, or the case be septic and the child dead, total extirpation is the operative choice. If the case is septic, supra-vaginal amputation is the operation of choice and is less dangerous and easier but as Bland Sutton suggests, there is greater danger to the ureter in total extirpation.

As a general rule, if the birth is accomplished without myomectomy the puerperium should be allowed to reach its completion before operation is undertaken. If the location of the tumor is such that it interferes with contraction and retraction of the uterus the hemorrhage following labor may be so severe as to necessitate irrigating the cavity of the uterus with tincture of iodine or to pack it with gauze. Greater dangers than these are offered by gangrene of the polyp or submucous myomata as they descend into the vagina. The death of the myoma that is known sometimes to occur is easily understood if we remember that it has grown while the blood-supply of the uterus was very good, but during the puerperium when the larger part of this supply is suppressed the fibroid contains more tissue than can be supported on this limited blood-supply. C. D. HOLLAND.

Hausser Myoma and Pregnancy (Myom und Schwangerschaft). Klin.-therap. Wochenschr. 9 3, xx, 7 By Zentrallbl. f. d. ges. Gynaek. u. Geburtsh. u. d. Grenzgeb.

Menstruation appears earlier than usual in myomatous patients. However the writer does not believe that this early appearance is caused by the myomata, as these tumors have hardly ever been found in girls before puberty and myomata grow too rapidly. He concludes that girls who menstruate

4. That the most efficient treatment does not insure permanent cure.

5. And, finally, that physicians should realize the importance and prevalence of the disease and insist on strict preventive measures both in hospitals and in private practice.

CLIFFORD G. GUTLER.

Ward Operation for the Cure of Rectocele and Restoration of the Fecundation of the Pelvic Floor. *T. Am. Gynec. Ass.* 9, 3, May.

By Surg. Gynec. & Obst.

This operation according to the author is especially applicable to cases of large rectocele. The conditions present in a rectocele were the same as in a cystocele. There was true hernia or prolapse of the rectum just as in the bladder. Likewise the bowel had been enlarged and pouches by distention so that there existed actual increase in size of the gut similar to the condition at the base of the bladder in cystocele. The same principle was applied in this operation to cure the rectocele as was employed in the modern radical operations for the cure of cystocele. The rectum was completely separated from the entire posterior wall of the vagina and was placed higher up in the pelvis.

The author describes the operation and gave the technique used by him in perineorrhaphy.

MISCELLANEOUS

McDonald. The Treatment of Leucorrhoea Due to *Gonococcal* Infection. *Am. Med.* 9, 3, May, 57.

By Surg., Gynec. & Obst.

The essentials in treatment are free drainage and germicidal applications. Drainage is obtained by the electric thermocautery (fine pointed loop at red heat) so no puncture of the cervix are made. About one third of an inch in depth in the middle of the menstrual mouth. This method gives free drainage to the cystic collections and it is usually necessary in rare cases to repeat the operation, at most three times. Douches of 1000 of the 50 per cent. oily solution of chlorometakresol are given and applications of tincture of iodine by swab are made to cervix and by probe to the ducts of the glands. After the puncture wound is healed an alkaline douche of soda bicarb. (or) and soda sulphat. (dr.) in two quarts of hot water is used. Along with the above general hygienic methods are carried out.

EDGAR CARY

Polak. The Conduct of Gynecological and Obstetrical Operations in the Presence of Acute Chronic Endocarditis. *T. Am. Gynec. Ass.* 9, 3, May.

By Surg., Gynec. & Obst.

Polak in summarizing his experience in gynecological operations, concludes that pelvic

conditions, necessitating operation, may be done after proper cardiac preparation. 2. That the cardiac symptoms, blood pressure, and the functional activity of the liver and kidneys were the only indices of when it was time to operate. 3. That these cases should always be seen and treated in conjunction with a competent internist. 4. The operation should be rapid bloodless and done under combined local and general anesthesia, morphine, novocaine, ether and oxygen. 5. That the Trendelenburg posture should be used only until such time as the field might be properly isolated, when the patient might be gently lowered out of it. 6. That phlebotomy should be done promptly on signs of right heart engorgement. 7. That post-operative distention must be avoided. 8. That morphia was the mainstay in these patients.

Krömer. Etiology and Treatment of Pyelitis in the Female (Entstehung und Behandlung der Pyelitis beim Weibe). *Deutsche med. Wochenschr.* 9, 3, 1913, 43.

By Zentralbl. f. d. ges. Med. u. Geburtsh., u. d. Gynäkol.

After giving historical data Krömer enters into the etiology and agrees with Stuekel that during pregnancy an ascending form of cysto-pyelitis almost always is present. This is contrary to the French investigators, who accept a hematogenous etiology. Retention of urine is necessary for the establishment of the first attack of pyelitis. Reasons for this view are (1) pyelitis frequently arises on the right side corresponding to the dextroversion of the uterus during pregnancy (2) ureteral obstruction is followed by urinary retention, then bacteremia and finally pyuria (3) relieving the urinary retention by making the ureter passable causes disappearance of all the signs of the infection, (4) after injury to the ureter secondary ureteral necrosis, the corresponding kidney sooner or later becomes diseased by an ascending pyelo-nephritis. According to these viewpoints, the treatment must be directed so as to render the ureter passable. This is effected by the patient turning or lying on the opposite side by ureteral catheterization and by irrigation of the pelvis of the kidney with disinfectants. Based on a series of cases, Krömer recommends the careful irrigation of the pelvis of the kidney. These measures, however, are only of benefit for each attack of pyelitis. permanent results after renal pelvic irrigations are rare. For recurrent cases he highly recommends vaccine treatment. He had three brilliant results amongst five cases thus treated. Finally he discusses the hematogenous origin of pyelitis after severe peripartur infections, angina, gastro-enteritis and colitis. Lymphatogenous infections after retroperitoneal phlegmon of the pelvis are also observed.

RECHENBERG.

In the first patient, the first labor which was a premature birth in the seventh month, ran a spontaneous course. Transverse position was present in each of the following seven labors. In six cases the author performed version, and once another physician. All the children are alive. The patient again became pregnant, for the ninth time. In the second case besides the deformity of the uterus a narrow pelvis existed with conjugata vera of 7.5 to 7.8. Podalic version and extraction was performed by different physicians during the 1st, 2d, 5th, 7th, and 8th labor on account of a transverse position. All the children were still-born or were subjected to craniotomy. In two other labors of the same patient breech presentation existed and these children were also still-born. To conform with the wish of the patient I have living child Von Klein performed a Cesarean section with relative indications at end of the tenth pregnancy as soon as the first labor pains occurred. Transverse position again was present. On account of the distal bicornuosity of the uterus the author did not make median longitudinal incision but a transverse incision over the fundus of one of the horns, and as the extraction of the child was impossible he also incised the fundus of the other horn including the septum. The upper end of the septum was 3 cm. thick and its lower border reached 1 cm. down from the surface of the fundus. The incision in the septum was closed by a few interrupted stitches to stop the hemorrhage. The uterus was closed with two rows of sutures. The patient was discharged as cured on the 14th day. The child lived.

In both cases a uterus bicornis supra-semisepatus existed. The author considers the deformity of the uterus as the cause of the transverse position. In the second case he performed bilateral salpingectomy to induce sterility. The unfavorable termination of the former labors was due to the narrow pelvis. The prospects of labor with transverse position and bicornate uterus is not unfavorable if a physician is called in time. On the other hand a patient in whom this complication has been diagnosed during former labor should immediately call physician at the commencement of labor as in such cases the transverse position is often repeated.

ANASTAS

LABOR AND ITS COMPLICATIONS

Cragin. Under what Conditions should Uterine Inertia be Treated by Artificial Delivery? *T. 4w Gynec. Ass. 9 3 May*

By Surg. Oyneck & Obst.

Cragin said uterine inertia was of greater importance in the second stage of labor especially if the membranes were ruptured and the pressure of the uterus came directly upon the child, than in the first stage yet in several Cesarean sections performed during a prolonged first case the presence of meconium in the liquor amnii and the marked slowing of the fetal heart prior to the operation had con-

vinced him of danger to the fetus from uterine inertia even during the first stage of labor.

Uterine inertia associated with fetal heart sounds indicating danger to fetal life was one of the first types of inertia indicating artificial delivery. His plea was for skilled, artificial assistance in the delivery before the mother and child were exposed to these dangers.

There was one condition not usually classed as uterine inertia which the writer called attention to before closing his paper. It was the long delay which sometimes intervened between the rupture of the membranes and the uterine contractions of the first stage of labor. Patients sometimes presented themselves to the hospital with a history that their membranes had ruptured three, four or even five days before their labor began. An unfortunate experience several years ago in which the fetal heart ceased before the labor was completed and a study of the temperature charts of a number of these cases, convinced him that in many particulars they resembled cases of uterine inertia during actual labor that there was fetal danger from interference with fetal circulation from prolonged pressure, and that maternal morbidity was common from septicemia, if not from bacteremia. For these reasons he had made it a rule in recent years, both at the Sloane Hospital and in his private practice, to introduce an elastic bag into the cervix if uterine contractions had not started at the end of twenty-four hours from the time of the rupture of the membranes. The elastic bag as a rule not only brought on uterine contractions but lessened the further escape of the liquor amnii and the results both fetal and maternal had seemed to justify the procedure.

DAVIS stated, in discussion, that from the accumulated experience of the profession it seemed pituitrin came into practical competition with strychnia, opium and ergot and Edgar had given very valuable hints as to the danger of pituitrin. All recognize the fact that in many cases opium to the point of lessening nervous excitability and securing rest, was of the greatest value in bringing about the development of the physiology of labor and all were aware of the very frequent experience of the unexpected and rapid delivery of multiparous women whom had been given opium to secure rest, and how frequently the woman surprised herself—and us most of all, when we were caught napping—but certain it was, opium in the general experience of the profession as the one sedative which was stimulant to the ganglion which controlled the action of the uterus. As regards strychnia in comparison with pituitrin it seemed to him the difference between the two might be stated in this way that strychnia given in moderate doses as a physiological stimulus to the ganglion supporting and maintaining uterine action while pituitrin, and especially as indicated by Edgar was matter of more brief and more stormy result and hence much more uncertain and personally he had not felt that he could substitute pituitrin for the use of strychnia as a physiological

stimulant or aid in labor. The use of ergot was thing to be carried out with great caution, and he still adhered to the belief that ergot should be given upon the emptied uterus only and in Cesarean section one might lay aside ergot entirely oftentimes with advantage. As to contracting the dilating bag with the bougie as an inducer and promoter of labor, in connection with strychnia or pituitrin, it was of advantage in that it decidedly stimulated the mucous secretion of the cervix and was less apt to alter the mechanism of labor.

POLAK stated that no discussion of pituitrin in this society should go out without sounding a word or two of warning. He had had within the last three weeks a case of rupture of the uterus from the use of pituitrin. He had also seen within a month a case that was thrown into such violent uterine contraction that anesthesia and morphia had to be used to control the spasm of the uterus consequently from his experience, which was comparatively limited (only 16 cases) he had drawn some conclusions that were only tentative that pituitrin had little or no place in the first stage of labor—that it was dangerous so far as our experience was concerned unless there was best knowledge of the pelvis, particularly in outlet contractions and particularly in borderline contractions.

Furthermore, in order to get the best use from pituitrin we should have dilated or at least a dilatable cervix, because injuries to the cervix had been just as Edgar had stated. He had found, furthermore, that it had no value, as far as his limited experience had gone, in establishing uterine contraction in emptying the uterus in cases of incomplete abortion.

Another observation he had made was that where it was used in the third stage labor he had gotten secondary relaxation in a sufficient number of cases to warn him that when he used it in the third stage it should be combined with ergot.

BYROND stated there was a mild form of inertia which in primiparae meant a great deal perhaps in some cases, due to general exhaustion from muscular exercise of the prolonged first stage, or want of rest and exhaustion of the nervous system. He had seen many cases in which there was inertia of the cervix. The patient had an irritable condition of the parts, and would have if the first stage of labor was unusual in its length. At one time, when investigating the function of the membranes in labor with a view to preserving them, he got in the habit of using opium frequently and in these cases the administration of opium would give rest, particularly as it acted in contrast to the advice so often given to women to get around and try to stimulate labor.

DICKINSON said that between foreign and American obstetrics there was one great distinction. Kerr read very his paper before this society on waiting or long delay in the second stage of labor. The German practice of delay in the use of the forceps or the infrequent use of the forceps as com-

pared with the American was most striking. It submitted the particular type of American woman neurotic, easily tired from vigorous muscular exercise and anxiety was a type to which the pituitary extract particularly applied. It was most fortunate that he had so good an exposition of the exact therapy of pituitary extract as Edgar had given.

STROMBERG said one of the most important points in these three papers was that of calling attention to the dangers of pituitary extract. Enthusiastic reports sent around by the manufacturers led to the promiscuous use of pituitary extract with many unfavorable results. His own experience has been very much the same as that of Edgar. The pituitary extract was so uncertain in its action in the first stage of labor that it was not to cause such bad results in the cervix that the cervix, it seemed to him, should either be fully dilated or dilatable, and was many times, but where the diagnosis was positive that there was no obstruction to rapid delivery delivery could be brought about promptly. Therefore, the question of diagnosis was important in the management of these cases as well as the indication for treatment. An accurate diagnosis should be made before any line of treatment was followed out.

GREEN stated that these radical papers were going out to influence general practitioners, and in the subsequent discussion something ought to be said as to what should be done in the way of prevention of uterine inertia. The average woman who was going to have a baby should be trained to go through the ordeal just as good athletic trainer would teach men on a football team. She should be trained for the condition, and if this was done in large proportion of cases the inertia would disappear. Furthermore, there were a great many women who were benefited during the last two months of pregnancy by systematic treatment with iron, arsenic, and strychnia. He gave strychnia in small doses to women in the last two months of pregnancy. If a woman was in pretty good shape physically was not tired, if she had a fair nervous system, she would go through labor pretty well if she kept moving around.

WASSERMAN said that in cases of uterine inertia associated with rigid, elongated, or hypertrophied cervix, he believed that the important measure of treatment was vaginal Cesarean section, and not abdominal Cesarean section unless there was contraction of the pelvic outlet.

As regards the use of pituitrin, he had been using it in the Presbyterian Hospital, Chicago and his experience harmonized with that of Edgar although the speaker had not used it perhaps in as many cases as had Edgar.

Harrison Uterine Inertia Its Treatment. I
Am. Gynec. Soc. 912, May

By Surg. Gynec. & Obst.

It is important to recognize the distinction between primary and secondary inertia. In primary inertia before the rupture of the membranes, the

conditions obtaining are comparable to those existing during pregnancy. Active intervention is not indicated. Patience on the part of the physician is essential and his aim should be to inspire the patient with courage and hope. She should not be confined to bed. After the escape of the liquor amnii, active intervention is indicated only if danger exists for the mother, child, and then the metrorrhagia is preferred. Vaginal hot water douches are liable to cause septic infection from injury to the epithelium. After dilatation the author prefers podalic version followed by extraction. When the head is resting on the perineum the forceps are indicated, especially in multiparae with distasteful of the recti. The Kristeller-Doederlein method of expression has a limited application. With reference to drugs exciting uterine contraction, ergot should never be exhibited until after the birth of the child and delivery of the placenta. The author has had no experience with pituitary extract and its range of application is still *sub judice*. Some authorities have recently advocated the employment of Cesarean section in certain cases of primary inertia when the mother's life is in jeopardy. Primary inertia *per se* does not furnish the indication for such a procedure. Obstetric resources are amply adequate without recourse to surgery.

PUERPERIUM AND ITS COMPLICATIONS

Ward. The Treatment of Puerperal Sepsis at the Sloane Hospital for Women. *Am. J. Obst., N. Y.* 9, 3, 1911, 454. By Surg., Gynec. & Obst.

In the event that a puerperal woman delivered at the Sloane develops a temperature she is considered at first as a case of pyrexia until it is otherwise demonstrated, and is treated as follows. On the first rise of temperature above 100° F. she is given a hot saline vaginal douche every 4 hours and an ice bag is placed over the fundus. Ergot is not given in such cases. If fever lasts for 24 hours or more, hot saline uterine douches are given after a culture has been taken. In case temperature still is elevated after 24 hours and other symptoms supervene the uterus is palpated under anesthesia, and foreign material is removed digitally, and a saline douche of the uterine cavity is made. In case the woman has been delivered elsewhere, so that the condition of the uterine interior is unknown, then this exploration is made at the outset of infection symptoms. Thereafter daily intrauterine saline is given as long as there is a cloudy return of the douche water in the presence of temperature. Should fever disappear or the discharge stop intra uterine manipulation is immediately discontinued. When infection has invaded other parts, manipulations and examinations are reduced to the minimum and nothing active is done except to incise when collections of pus form, vaginally when possible. In all cases supporting treatment is instituted, nutritious diet given and the patient isolated. The head of the bed is elevated and ice is applied to the abdomen.

Ward says that nursing of the infants is always stopped as soon as sepsis is diagnosed. At Sloane case has sepsis in case a uterine temperature persists for a week (unless the case dies earlier) and in case fever subsides earlier than this it is called sapremia. He has observed no undoubted benefit from acts of vaccines. N. SROAT HEARTY

Findley. Treatment of Puerperal Thrombophlebitis. *J. Am. Gynec. Ass.*, 9, 3, May. By Surg., Gynec. & Obst.

Findley reported ten cases, reviewing the literature on the subject. With this review of his recent personal experience with puerperal thrombophlebitis, together with the expression of opinions of many of the workers in the field of obstetrics, he submits the following for consideration. The Trendelenburg operation is surgically correct in theory, but as a practical proposition it is a questionable procedure. The difficulties involved in the making of an accurate diagnosis before opening the abdomen are as yet insurmountable. Furthermore, it is not possible to judge with accuracy the extent of the infection within the veins or elsewhere after the abdomen is opened. One cannot rely upon the sense of touch to locate with certainty the limits of a thrombus nor can we judge with certainty the presence or absence of pus within the veins. Failure to find bacteria in the general circulation gives no absolute assurance of the localized character of the infection, nor can physical examination of the lungs and other viscera exclude the possible presence of metastatic foci. 3. It is in direct violence to the rules of practice to traumatize tissues in the immediate neighborhood of virulent infection.

In reviewing the reports of cases the author has been seriously impressed with the boldness with which some operators violate this time-honored principle of surgery. If the infected veins are not dissected out, have they not locked the thief in the stable when they do no more than ligate above the zone of the infection? and if the infected veins are not dissected out do they not incur serious hazards in the way of disseminating the infection? Furthermore, the risk of dislodging thrombus in exploring the pelvic veins should be reckoned with. 4. It is physical impossibility to ligate all the veins leading from the genital organs and unless all channels are blocked there can be no assurance of checking the infection. Among the ardent supporters of the operation are those who would ligate the lower end of the vena cava and both spermatic veins, claiming that the collateral circulation can be depended upon to re-establish the return circulation. Is this not an argument in favor of the contention that the venous channels leading from the infected uterus cannot be wholly controlled by ligation? 5. The physical resistance of all cases of puerperal infection is far below par, a fact which makes us cautious in adding further to their burdens. We might well rob them of the little resistance they possess. 6. Little dependence can be placed upon

serum and vaccines in these cases. 7 Whatever may be the view on the question of ligation of veins or upon the administration of serum and vaccines, all are agreed that the body resistance may be supported by fresh air and nourishing food.

MISCELLANEOUS

Tausig Factors in the Formation of Skin Striations During Pregnancy. *J. Am. Gynec. Ass.* 9, 3, May. By Surg., Gynec. & Obst.

Tausig said only thirteen out of sixty primiparae are free of skin striations. Skin striations occurred most frequently at several points and usually made their first appearance about the 6th or 7th month of gestation. In girls older than 20 years of age they were decidedly more pronounced and more frequently found than in older women. Obesity particularly rapid increase in weight during pregnancy predisposed to the formation of striae, especially those about the breast and thighs. Lack of abdominal support during pregnancy as in those who wear no corsets favored the formation of abdominal striae. On the other hand the tense and turgid skin in which no striae were found as a protective factor in subsequent abdominal relaxation. At any rate abdominal muscular relaxation and abdominal skin striation went hand in hand. Perineal tears had apparently no relationship to skin striation. Finally the permanent employment of proper skin massage could in the great majority of cases prevent the formation of the slightest skin striations.

Fry Demonstration of the Infant Pulmotor with Remarks on Its Use in the Treatment of Asphyxia Neonatorum. *J. Am. Gynec. Ass.* 9, 3, May. By Surg., Gynec. & Obst.

The author said the introduction of the infant pulmotor into obstetric practice was so recent that he had not been able to collect any statistics of the value of the apparatus. Certainly it was vastly superior for resuscitation to the ordinary methods of artificial respiration. He had had no opportunity to test it in serious forms of asphyxia, the so-called asphyxia pallida, but in the livid form it had acted promptly and resuscitated the infant in about five minutes. Edgar said he had used the apparatus six or seven times in both asphyxia pallida and livida. The results were good, much better than he had anticipated because at first he was doubtful of the value of the apparatus. Communication from Rochester reported the use of the pulmotor in five cases. In Case 1 it was unsuccessful. There was no heart action detected when the infant was born. In Case 4 it was likewise unsuccessful, but there was no mention of the heart action. In Case 5 the infant was born with marked asphyxia, but cardiac pulsations were detected. The labor had been prolonged but was terminated by mid-forceps application. The ordinary methods of resuscitation were employed for ten minutes without result. The

pulmotor restored life in ten minutes and the infant lived. Case 3. Pronounced asphyxia of the infant with heart action. After failure to resuscitate, the infant breathed after three or four minutes of the application of the apparatus. Case 5. A labor of thirty-six or forty hours duration was terminated by a difficult, high forceps application. The infant had deformities of the extremities and had been born thirty minutes before the use of the pulmotor. The heart action was slow, eighty to ninety per minute. After forty to sixty minutes use of the pulmotor the infant breathed, but died 1 1/2 hours afterward. The condition of the infant suggested strongly the existence of intrauterine pressure. Efforts to resuscitate the infant should not be abandoned as long as there was any heart action.

In discussing Fry a paper Edgar stated that he believed he had the first Dräger infant pulmotor that came into this country. It was more than a year ago. At first he looked upon the machine with more or less skepticism, thinking it was more of a plaything than a thing of value, but having used it for some time he found there was some value to it. They had one at the Manhattan Maternity which was ready for use in every operative case. They had had several cases which illustrated the value of the machine, but as Fry had said, the inspiratory force should not be run up to 5. He thought, or centimeters of force as sufficiently high. Although he had made no attempts to prove it, he believed there was some likelihood of rupture of vessels when they ran the inspiratory force up to more than 10 or 15.

Potter stated that he would like to ask Fry if the pulmotor could be attached to the ordinary oxygen tank in case of emergency. Fry replied that they had an extra attachment so that it could be put on an ordinary oxygen tank.

Dezang Etiologie Symptomatology and Surgical Treatment of Meningeal Hemorrhages in the New-born (Etiologie, symptomes et traitement chirurgical des hémorragies méningées du nouveau-né). *Arch. ges. d. chir.* 913, 4. By Zentralbl. f. d. ges. Chir. u. Geburtsh. u. d. Gynäc.

This paper discusses, principally the surgical therapy of meningeal hemorrhages in the new-born. The profuse hemorrhages are generally productive of alarming symptoms. It is very important to study carefully the cases of hemorrhage producing trifling symptoms as these may be followed by irreparable injuries. The correlation between labor and meningeal injuries has probably remained unrecognized to date because so long a time sometimes several years, may elapse before any disturbances are manifested. MacCallister first called attention to the concurrent meningeal cicatrices with Little's disease. Rutland suggested lumbar puncture in all asphyxiated new-borns. Meningeal hemorrhages could then be found much oftener. Etiologic factors are narrow and rigid vagina, all abnormalities that prolong labor, as malpositions and instru-

mental extractions (these according to Gowers, produce hemorrhages in 50 per cent of the cases) the size of the child's head, the degree of ossification and like conditions. The hemorrhages are also found in cases without trauma e. g. in classical Caesarean sections, due to the fragility of the blood vessels so common in hereditary taints (syphilis, alcohol). We must differentiate between spontaneous hemorrhage and that produced during labor. Hemorrhages in children are nearly always venous and occur most frequently in the subarachnoid veins. During labor the veins are torn either on account of injuries or increased blood pressure. Such hemorrhages are most frequent in babies with soft, poorly ossified skulls that give poor protection to the underlying brain, secondly in cases of rapid or sudden blocking or damming up of blood in the veins which is mechanically produced by asphyxia. These are the spontaneous hemorrhages. A third etiologic factor is doubtful, viz., can the sudden burning and emptying of the bag of waters produce hemorrhage by negative pressure (or absence of counter pressure)?

The symptoms vary in a marked degree. Some times the babe is cyanotic when borne; if treated scientifically at once, breathing is established but the child does not cry and, if not stimulated artificially, breathing soon ceases and the child dies.

In other instances, resuscitation is successful and the child cries but remains passive and will not take to the breast nor swallow. After 3, 4 or 5 days symptoms of skull compression, epileptic convulsions, even Jacksonian epilepsy, rigidity, tremors or convulsions appear. Occasionally such symptoms will appear after a few days (up to the 6th day Murphy) in a babe that appeared to be the picture of health. The pulse drops to 90 and the respiration is superficial, rapid and often irregular. The temperature chart is fairly accurate in the prognosis of these cases. If in the first few days, slight but persistent elevation of temperature is observed, the babe will live in most cases provided there is no infection. Elevation of temperature may be the only symptom of cerebral pressure. Hemorrhage near the sulcus Rolandi produces a first circumscribed symptoms, monoplegia, often motor disturbances, tremors, convulsions, and finally affects only one of the lower extremities. The general health is impaired early. If the condition begins to improve, the life of the patient is no longer threatened, but later mental defects may appear. Permanent defects at the base of the frontal parietal lobes are followed later by epilepsy. Little disease strabismus, deafness, defects of speech, facial paralysis, and many other pathologic conditions. It is very important that an early diagnosis of intra-cranial hemorrhage be made as the success of therapy depends upon immediate action.

Formerly treatment consisted of the application of leeches to the processes mastoidei, baths, chloroform and ether inhalations, and later lumbar puncture which does not always produce the desired

results. Finally the advice to operate came from America. Chipault suggested trephining the skull and incising the dura mater. The operation is simple and of short duration. Cushing was the first to perform this operation in 1903. He had nine such cases, of which four were absolutely successful. The operation was done between the second and the twelfth day. Three times it was necessary to do the bilateral operation. Technical details of the operation are described by the author. Seitz modified the operation by opening into the dura mater at the lowest point possible. Simmonds avoided trephining by making a short curved incision from the large fontanelle along the anterior superior border of the parietal bone. After dividing the dura, the blood clots were removed. As a preparatory treatment he gives a injection of 30 cm. salt solution several times. This procedure was successfully employed by Gilles (Toulouse) in a case after lumbar puncture failed. If serious symptoms occur later one can always resort to trephining. The surgeon should employ the methods in the following order: Lumbar puncture. If no improvement is noticed the fontanelle incision should be made while the dura is still tense. Trephining the skull should be considered last of all.

E. ZWIRNER.

Ries Chorionic Villi in the Uterus 18 Years after the Last Pregnancy. *Am J Obst. & Gynec.* 9: 2, 1914, 433. By SORG, Gynec. & Obst.

Ries in this article gives complete history and microscopic findings in a case which he operated 18 years after her last pregnancy for multiple fibroids of the uterus. Protruding from the cervix on the cut surface of the cervix of the uterus, which was removed supravaginally was a fine thread-like string, which upon dissection could be traced as far as the cornu of the uterus. Microscopic examination showed a vein filled with villi which had undergone hyaline degeneration and which were covered with a single layer of endothelial cells. The rest of the uterus, except for multiple fibroids, presented unusual microscopic changes. Ries draws attention to this case of benign survival of chorionic villi for so long a period as of importance in the probable explanation of chorio-epithelioma at times remote from pregnancy.

SPRAT HEANEY

Leonard The Difficulty of Producing Sterility by Operation on the Fallopian Tubes. *Am J Obst. & Gynec.* 9: 2, 1914, 443.

By SORG, Gynec. & Obst.

Leonard reviews the various proposed methods of producing sterility by operations upon the tubes and relates the reported instances of pregnancy following the various operations, reporting two cases of pregnancy occurring after ligation of the tubes. He concludes that, classically and experimentally the wedge-shaped excisions of the uterine ends of the tubes has been the most satisfactory means so far devised.

N. SPINA HEANEY

Romy: The Use of Fetal Serum to Cause the Onset of Labor. *J. F. S. J. M. v. 1, 1914, 119.*
By Surg. Gross & Obst.

The author reviews the experiments of Von der Heide who was the first to use fetal serum in the induction of labor and for certain cases of the uterus and reports 9 cases in which he used the serum. He followed the methods and dosage of Heide with some slight modifications to suit the individual case. The serum was prepared as suggested in Heide's original paper and injected intravenously. Although the results were negative in 4 of his cases and at least in 5 of the cases reported by Heide, he believes that it has been demonstrated that fetal serum will cause the onset of labor.

Von der Heide considers his results in reference to the onset of labor as an anaphylactic reaction. He thinks that normally the birth act is brought about by the slow transmigration of fetal substances into the blood of the mother, which give rise to the formation of antibodies—labor substances as he terms them. Toward the end of gestation these substances are transmitted to the blood of the mother in excessive amounts. That there is a deluge of these substances is proven by the contractions which arise in the last weeks of pregnancy and also by the unusual results obtained by the injection of fetal serum in birth.

C. H. D. M.

Parls: Hypophyseal Extract in Obstetrics (Extrait hypophysaire obstétrical). *Gaz. d. M. d. S. M. M. 1914, 2207-24.*
By Zentralbl. d. ges. Gynäk. u. Geburtsh. u. d. Gynäkol.

The indications for administering the extract are atonic hemorrhages and weak pains. The experiments did not correspond and hence opinions differed, owing to the inconsistency of uterine effects that were often overshadowed by the secondary effects such as discomfort, thirst, anorexia, fear etc., and, objectively as albuminuria and even eclampsia. Unfavorable effects upon labor pains were infrequent; sometimes the uterine contractions were tumultuous or tetanic, threatening the life of the babe in utero. Rarely there occurred atonic hemorrhage an hour after labor due, no doubt, to the relaxation of the musculature following the artificial stimulation. Hämmerle found stricture of the internal os resulting from the injection. Eisenbach found the results not to be uniform in consequence of the different dosages, indications and sensitiveness during the various periods of gestation. The response is greatest towards the end of gestation and almost negative during the first half. The different parts of the gland are different in their effects. Pituitary gland contains 1 gland substance in cc. dose 1-2 cc. intramuscularly. Repeat in one or more hours. If the contractions come, become weaker or less frequent, the author gives stronger doses repeatedly. In thirty cases Eisenbach found the labor pains to be of physiologic character, never colicky nor tumultuous, though

occasionally the uterus remained tense during the interval, but never was there cause for anxiety.

The first contractions occurred 3-4 minutes after an injection the maximal power appeared in 30 minutes, generally and decreased in another 30 minutes. Infrequently the effect lasted until labor was completed. Never were injurious effects noticed upon mother or babe. It is of practical importance that there never was anything pathological found post-partum which could be attributed to the extract. The after-pains were never specially severe. In eighteen of the author's cases, the effect was unsatisfactory in five and prompt in eleven.

Eisenbach claims this preparation to be efficacious and necessary as in numerous cases of atonic hemorrhage results were rapidly obtained. Mergel and ergotin were resorted to in all cases and, when these failed, pituitary gland was injected with good results. The author ardently recommends pituitary gland, especially when ergotin fails. Eisenbach says Pituitary gland is not infallible in producing labor pains but it is the best method available for that purpose at present. The proper selection of this extract insures favorable results in cases of weak contractions and often prevents the application of forceps and other artificial means of delivery. Abortion is not induced. The extract is specially indicated in atonic hemorrhage.

BRASCHKE.

Edgar: Pituitary Extract in Uterine Inertia. *T. Am. Gynec. Ass., 9, 2, May.*

By Surg. Gynec. & Obst.

Edgar reported seventy cases of which records had been kept, and these cases were from two hospital services, namely Bellevue and Manhattan Maternity and from private practice. They included in the first and second stages of labor thirty-nine cases immediately after the third stage, nineteen cases in Caesarean section six cases and for the induction of abortion six cases. He drew the following conclusions: 1. Amputa or vaporate of the drug should alone be employed, as in his experience constant results failed when the pituitary extract in bulk solution was used. 2. There were three reliable proprietary preparations of the drug now on the market all of these were used at different periods in his cases. 3. For decided action 0.4 gram of the drug was usually called for although in ordinary cases, with little obstruction, half that dose was found sufficient. 4. As the effect of the drug lasted but 30 minutes, repetition of the dose was often called for. 5. Intramuscular injection was usually satisfactory causing no local reaction or pain. Further no toxic symptoms were observed from the use of the drug even in maximum doses. 6. Pituitary extract might be combined with ergot when the action of the former failed, and with heart stimulants in shock cases, without compromising the actions of these drugs. 7. Pituitary extract had no place in normal labor; the administration should be confined in obstetrics to instances of primary and secondary inertia, to post-partum

hemorrhage and Caesarean section. In the last as a substitute for ergot. 8. The drug produced strong intermittent uterine contractions often prolonged for several minutes. He had never observed true continuous tetanic uterine contractions (tetanus uteri). 9. Although theoretically the uterine contractions were intermittent, practically in the face of resistance, the contractions approached to the continuous in character and clinically might be so reckoned with. 10. Full and even small doses of the drug in the first stage of labor had caused in his cases fatal compression of the foetus, premature separation of the placenta and deep rupture of the cervix. In the first stage or where some obstruction existed in the second stage he gave small tentative doses of pituitary extract not with complete delivery by means of the drug in view but to bring the head within easy reach of a simple forceps operation. Seven of his thirty-nine cases were thus treated. 11. Pituitary extract acted promptly and efficiently in most of the thirty-nine cases of inertia in the second and first stages. Its actions were more positive in multipara than in primipara. It acted better at full term than in premature cases, also better in the second than first stage of labor and when administered shortly after the spontaneous artificial rupture of the membranes.

In the eighteen cases in which the drug had been used immediately after the third stage for post-partum hemorrhage due to inertia, his results were disappointing, so much so that he considered its action here most unreliable and not as positive as the ergot preparations.

In eighteen post-partum cases, he found no effect of the drug in two cases. It was necessary to use ergot in two instances, hot scotic acid douches in two more, to pack the uterus in seven cases, and in the remaining six cases only were good uterine contractions observed.

13. In Caesarean section he could not observe any advantage of pituitary extract over ergot, aside from the observation that the former acted more promptly and hence need not have been administered so early in the operation. 14. In induction of labor the drug failed to initiate contractions, but apparently initiated them after the use of gauze, the bougie or hydrostatic bag for inducing labor. His belief was that the drug strengthened already existing contractions not yet apparent to patient or physician. 15. For primary inertia in abortion cases his results with the drug were disappointing. 16. For atony of the bowel and bladder and as a galactagogue his results were frankly negative. 17. The dangers to mother and child in the indiscriminate administration of this drug for primary or secondary inertia of the first or second stage of labor must be reckoned with.

Only a few of the thirty-nine cases of inertia were frankly in the first stage of labor and these were earlier cases. The remainder were of the second stage, or borderline cases just merging into the second stage.

He considered the use of the drug in the first stage a dangerous practice, liable to cause death or deep asphyxia of the foetus, separation of the placenta, uncalled for laceration of the cervix, and possible uterine rupture.

18. Of his thirty-nine cases of inertia in the first and second stages, he had to report two and probably four stillborn children deaths due, in his opinion, to the use of pituitary extract before full dilatation and three instances of deep laceration of the cervix requiring suture to control the bleeding.

19. He looked upon the use of pituitary extract before full dilatation or dilatability of the cervix as equivalent to the use of ergot at this time. In fact it was probably more harmful than ergot, by reason of the more powerful contractions produced and the uncertainty of its action. 20. He had repeatedly observed prolonged tempestuous contractions, when the drug was given in the face of too much resistance closely simulating tetanic contractions of the uterus (tetanus uteri). 21. The action of the drug was most uncertain. One could never predict in a given case, either from the amount of the drug administered or from the character of inertia and the obstruction to be overcome, how powerfully the drug would act upon the uterus. He had repeatedly observed both in private and hospital practice 0.3 gram of pituitary extract, half the usual dose commonly employed, produced such prolonged and powerful uterine contractions that uterine rupture was imminent and anesthesia was required to control the action of the drug on the uterus. 22. In his opinion the drug should never be employed for inertia in any stage of labor unless anesthesia was at hand for immediate use, and preparations complete for immediate operative delivery, if necessary to avoid uterine rupture. 23. Finally with due regard to its action, and possible dangers, pituitary extract was a most valuable addition to our resources for the treatment of primary and secondary inertia.

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Robert Arsen benzol in Obstetrics (L'Anesthésie en obstétrique). *Ann. d. med. nat.*, Par. 1913, vol. 55. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

At the fifteenth Congress of the Obstetric Society of France the author presented a review of the reports on salvarsan therapy in obstetrics. Sauvage, according to the observations of his own cases and a study of cases collected from the literature (143 cases in all) is very reserved in his opinion regarding the merits of this remedy and does not intend discontinuing the old mercury treatment. Sauvage employs the new method only in cases not benefited by the old treatment, and mentions the manifold disturbances caused by salvarsan treatment, especially its ill effects upon the liver and kidneys. Chamberlaint tabulated all cases reported to date of children treated by salvarsan therapy. The results of indirect treatment, viz., by the milk of mothers injected with salvarsan, are not at all satisfactory as in most cases relapses have occurred. Salvarsan

according to Rovsing (6 l. liters per day) is admissible. As urinary antiseptic salol in large doses is given (4 to 5 gm. daily). In spite of the presence of phenol in the urine no renal lesions or disturbances have been noted, and no miscarriage precipitated. Instead urotropin in large doses may be advised (4 to 5 gm.) especially in after treatment. The use of boroverdin, heral, etc., demonstrated no better results than the above-mentioned drugs. In seven cases the patients were treated in bed on the back and not to turn on the side.

The author noted no influence from vaccine treatment tried in two cases. The great majority of acute pyelitis cases recover on this mode of treatment, though it may require several months and after repeated recurrences. Urethral catheterization in the cut stage is indicated either with or without lavage of renal pelvis, only in the presence of intense congestion, severe pain and poor general condition of the patient. Its use in the embolic type is recommended when the fever does not spontaneously disappear. With this condition as indication, Oppenheimer catheterized the ureters in three cases with excellent results, while during the acute stage he made use of the procedure but once, and then without any benefit. Lavage of the renal pelvis is uncertain permanent drainage for fourteen days is recommended. While the author does not consider nephrotomy harmless procedure when other methods fail in severe cases it must be resorted to.

KROWE.

Erbschhoff. The Pathological Physiology of Renal Decapsulation and the Indications and Contra-indications for the Operation. *Am. J. Urol.* 19, 2, 12, 35.

By Sarg. Gynec. & Obst.

The author reviews concisely the pathological and experimental work bearing on renal decapsulation, its effect on the renal tissues and the resulting physiological changes, concluding with indications and contra-indications for the operation.

He does not support Edebohls theory of the pathology i. e. that regeneration and proliferation of renal epithelium occurs, besides neovascularization. He points out that clinically there are often striking immediate results, such as cessation of pain and hematuria, increase in diuresis, etc. He mentions J. Boulay's theory of vasomotor change in renal vessels resulting from stretching of the sympathetic nerve-fibres in the pedicle. While Claude and Balhazard have shown experimentally that the proportion of urea and salts excreted are increased, he believes it is generally agreed that this is not due to actual increased blood supply but, according to Lifson, is the result of lowered intravenous tension and consequent rise of arterial pressure within the kidney causing improved elimination.

The ultimate effects, cessation of edema and diminution in amount of albumen are not constant but heart and eye conditions are usually benefited.

There is no evidence to support the fear that future trouble may arise from the contraction of the new formed capsule or dissections about the kidney. Excepting Edebohls, there are no case reports tending to show the operation to be curative. The author believes it merely to be palliative by lessening any temporary renal insufficiency which is superadded to the nephritic lesion. It may however arrest the evolution of the nephritic process.

He mentions indications for the operation in acute and chronic cases, and discusses briefly the question of unilateral or bilateral decapsulation, and the use of renal sufficiency tests in diagnosis of the lesion.

H. BLOCH.

Pousson. Contribution to the Surgery of Nephritides (Beitrag zur Chirurgie der Nephritiden). *Berl. Klin. Wochenschr.* 9, 1, 381.

By Zentraltbl. f. d. ges. Chir. u. i. Grenzgeb.

In order to place the surgical treatment of the nephritides on broader basis in the future, it is necessary to establish the indications and contra-indications exactly. Nephrotomy removes the intrarenal tension, further it relieves the organ by the copious hemorrhage, through which microbes, necrotic epithelium blocking the urinary tubules and toxins are swept away and, finally the various secrets are removed by the prolonged drainage of the pelvis of the kidney. The effect of spilling the kidney must be considered in both forms of acute nephritis, the toxic as well as the infectious. Surgical intervention is urgently required when lateral remedies, as diuretics, venesection, etc., fail and when in addition to fever with severe general disturbance diminution in the quantity of urine secreted takes place. Nephrotomy must be considered first then decapsulation not nephrectomy because the kidney as an excretory organ, even when itself diseased helps to eliminate toxic-infectious bodies from the organism. Among the chronic nephritides the painful forms will be the first discussed. The pain originates partially from the pressure exerted by the adhered capsule on the organ, partially from the congestion of the parenchyma produced by the morbid process. The painful nephritides are only exceptionally Bright's, more often they are caused by nephrothlasia, inflammatory affections of the adnexa, trauma, etc. Among the operations to be considered for this form of chronic nephritis preference must be given to nephrotomy, which may be combined with capsulectomy. The hematoma nephritides are characterized by being mostly partial i. e., the process is confined to small areas of the parenchyma. The circulation is disturbed by these lesions there is a stasis of blood in the capillaries and canals, which finally leads to rupture of the atrophic and diseased vessels. Here also nephrotomy can regulate the swelling of the parenchyma. Pousson secured more favorable results with it than with nephrotomy. The chronic nephritides, which are complicated by severe and threatening symptomatic accidents, and in which, therefore, palliative

treatment should be instituted present the three chief symptoms oedema, uremia and oliguria, either singly or in various combinations. Among 53 cases treated by operation sixty three operative deaths are to be recorded, i. e., a mortality of 4 per cent.

Of ninety cases, twenty four died after an interval of three months to ten years from accidents which must still be brought in connection with the chronic nephritis or from recurrences those operated for uremia remained alive for the longest time. Sixty-six are living and were observed over larger intervals. The operative mortality is the least in patients suffering only from oedema, and the greatest when uremia and oliguria without oedema are present. A middle place is occupied by the cases with oedema and uremia, which are still favorable, compared with those presenting all three symptoms. Among the sixty-six observed for longer time, there were registered twenty-three markedly improved, twenty five improved, three slightly improved and six without improvement. The acute disturbances in the course of the disease must also be considered among the indications, as functional disturbances do not contra-indicate operative interference, while in the presence of anatomical changes an operation must be considered with great reserve. Further contra-indications are myocarditis, atheromatous degeneration of the larger vessels, and severe pulmonary phenomena. Decapsulation was carried out in the majority of cases but even here nephrotomy is justified, notably in severe uraemic intoxication. The question, whether operation (decapsulation or nephrotomy) can provoke healing of the morbid process in the kidney Pomeroy would answer in the negative but at any rate the relief of pressure in the organ produces compensatory hypertrophy of the uninjured areas.

RUSSETT

Henschen. Nephropexy by Suspension with Transplanted Fascia (Nephropexie vermittelst transplantierter Fäzies oder fasciales Anhängens). *Arch f. Min. Chir.* 9 3, c. 961.
By Zentralbl. f. d. ges. Chir. I. Obergelb.

Henschen has developed a method of operation for floating kidney which obviates the disadvantages of unipolar fixation. It consists in enveloping the organ in large non-pedicle flap of fascia lata. He employed this procedure in one case with success. The patient was a slender woman, 32 years of age. A flap 30-35 cm. was taken from the fascia lata. This flap was divided in half by longitudinal incision up to its center here a hole was cut for the hilum of the kidney. The fascial flap was then folded about the kidney and fixed by fine silk sutures. Finally the fascial flap was attached to the quadratus lumborum, the lumbodorsalis and the muscles of the posterior wall of the renal niche. The result was good and permanent, as could be ascertained at a subsequent examination.

NOBESCHKE.

Leguen. The Clinical Value and Interpretation of the Constant of Urea Secretion (Valeur clinique et interpretation de la constante urée-sécrétoire). *J. d'Urol.* 9 3, 21-23p. By Journal de Chirurgie.

Nephritis, usually of a mild type, is present in all cases of obstruction of the lower urinary tract there is also a varying degree of arterial hypertension in the blood there is an excess of nitrogen or chlorides, or both.

Leguen dwells upon the symptom-complex due to nitrogen retention in the blood, and shows the value of Ambard's constant of urea secretion and how it completes the dosage of the blood urea, and how it must be interpreted in surgical work. This constant is based on the following laws of urea excretion, as set forth by Ambard (1) When kidney eliminates urea under a constant concentration the output varies in direct proportion to the square of the urea concentration of the blood (2) when the urea concentration of the blood remaining constant, the concentration of the excreted urea varies, the urea output is in inverse proportion to the square root of the urea concentration of the blood (3) when the urea concentration of the blood and that of the urine both vary the urea output varies in direct proportion to the square of the urea concentration of the blood, and in inverse proportion to the square root of the urea concentration of the urine.

There is, therefore, in all individuals, a constant proportion between the urea content in the blood and the square root of the urea output which proportion is the constant of urea secretion. Said constant is normally about 0.070. When the power of urea excretion of the kidney is impaired, it rises and approximately reaches 0.00 in individuals having lost about half of their excreting power. These figures are accepted as basis for the clinical interpretation of Ambard's constant. Other pathological conditions lower the constant, for instance, nephritis of the dropical type (called by French authors hydrophigene) and albuminuria. Consequently a lowering of the constant is almost as important as a raising of the same and a figure markedly below 0.070 is suggestive of hydrophigene nephritis.

In renal surgery the study of the constant of urea secretion is a self guide for operative indications and contra-indications. It is particularly valuable when ureteral catheterization cannot be performed or when, after ureteral catheterization, there remains a doubt as to the value of the supposedly sound kidney or when bilateral lesions are suspected. If the constant is above 0.070 then lesions are very likely bilateral if below 0.070, the other kidney is sound and nephrectomy is indicated.

The same constant affords valuable data in the surgery of obstructions of the lower urinary tract and particularly when it comes to deciding for or against prostatectomy. Cases of prostatic hypertrophy belong to one of the three following groups (1) Those having a high constant, 0.080, or more the nitrogen content of the blood is also high—gm. or more. These patients are inoperable, at least

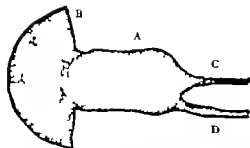


Fig. (Good)

subcutaneously administered has not yet shown satisfactory results. The maximal dose is 0.5 milligrams (salvarsan per kg. of body weight). The intravenous injection is too dangerous in children. Falre and Bourret also believe that the old mercury treatment should be continued, but recognize salvarsan as a valuable addition to medicinal agents for coping with lues. By combining salvarsan with mercury and iodine therapy syphilis is more energetically attacked and more speedily improved. Though the children of mothers treated with salvarsan manifested no symptoms of syphilis during their short stay, the link yet relapses occurred later, according to the investigations of Lemeland and Hrisson. These observers claim that neither salvarsan nor neosalvarsan is well adapted for general practice owing to the difficulty of administration, etc. Bar records few favorable results and has had some unfortunate experiences. The most celebrated French bacteriologists do not subscribe to the dermatologists' enthusiasm for salvarsan.

PARKER

Good A New Obstetrical Rubber Bag. *Surg. Gynec. & Obst.*, 9, 2, xvi, 320

By Surg., Gynec. & Obst.

No longer can there be any doubt as to the efficacy of the rubber bag in dilating the parturient cervix. A rubber bag filled with water exerts an equal pressure in every direction, consequently it is the nearest approach to the amniotic bag of water.

The author feels that the ideal bag is one that will exert an equal pressure everywhere (pressure on both the entire cervix and the lower uterine segment) that will not displace the head, and that is easy of introduction.

Fig. shows the bag before it is filled with water. It is mushroom-shaped and has two separate compartments. Compartment A is for cervical pressure, and compartment B for pressure on the lower uterine segment. Tube C is for filling compartment A, and tube D which runs directly through compartment A, is for filling compartment B.

Fig. shows the bag with both compartments filled with water. Compartment A is 3 inches long

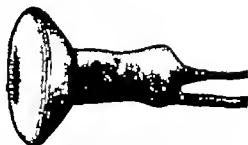


Fig. (Good)

and $\frac{3}{4}$ inches in diameter. Compartment B is $\frac{3}{4}$ inches in diameter and $\frac{3}{4}$ inch from its base to its top, thus causing but little displacement of the head.

This bag has been used in several cases with excellent results.

McDonald Diagnosis of Early Pregnancy. *Am. Med.* 9, 2, xiv, 69 By Surg. Gynec. & Obst.

The author believes that the most important signs from which early pregnancy is to be deduced are those found on vaginal examination. These he divides into two groups. First, the congestive signs: blush and flush of the vaginal mucosa, blush and softening of the cervix. Second, the uterine signs, including enlargement of the uterus, softening of the uterus, intermittent tetanic contractions, Hegar sign, and the author's sign.

A table of 100 cases arranged in percentage order gives the frequency of the above signs in the early weeks and in which weeks they most often appear.

In the congestive or Jacquemins' sign the author calls attention to the fact that the violet spot appears first on the anterior vaginal wall about thumb's breadth below the urethra. The cervical blush appears about the tenth to twelfth week in the majority of cases. Softening occurs at about the same time and begins on the outside and extends inwards.

The early enlargement of the uterus is asymmetrical in nearly one half the cases before the seventh week and only uniformly enlarged at the tenth week after the last period. The uterus takes on a soft doughy consistency with hard button-like spots in it. These spots disappear at the tenth week.

The author's sign of flexibility of the isthmus, or Hings Sign of Pregnancy, as McDonald calls it, is present in 97 per cent of his cases recorded. It elicits it, the bladder is first emptied completely then the fundus is brought forward with the abdominal hand. The vaginal hand presses upward and forward on the cervix, the isthmus in early pregnancy bending easily so that the uterus and cervix may lie practically side by side. Flexibility of the isthmus is in itself a expression of this sign.

EUGENE CAR.

GENITO-URINARY SURGERY

KIDNEY AND URETER

On the Incrustations of the Renal Pelvis and Ureter. *T. Am. Ass. Genito-Urin. Surg.*, 93, May. By Surg., Gynec. & Obst.

The author presents four cases of incrustations with calcium salts along the upper urinary tract. In the first case these were located around one of the renal papillae. In the second, they lined the posterior wall of the pelvis, and in the third, an incrustation about one and one half inches long was present in the upper ureter and one, about three fourths of an inch long at the juxta-vesical ureter. The author starts with a brief review of the causes of calcareous infiltration, and states that the great majority of authors agree that necrosis is the prime factor in such formations. Among the predisposing influences are mentioned such diseases as typhoid fever, diphtheria, cholera, auto-intoxications, scurvy, eclampsia, gout, and diabetes. Poisons which may predispose to this disease are cantharides, corrosive sublimate, chromates, oxalic acid, stelo glycerin phosphorus, arsenic and vinylamine.

The rationale of the deposition of salts in the area of necrosis is not definitely established. Various theories are the presence of fatty acids with which the calcium may form insoluble soaps, and proteins capable of uniting with calcium and phosphorus, have all been advanced as determining factors.

The cases within the renal pelvis were diagnosed as renal calculi and the true nature of the lesions was only determined at operation which was nephrectomy. The author believes that cystotomy is the operation of choice in such cases, as pyelotomy would not provide sufficient exposure to insure the complete removal of the incrustation.

The diagnosis of the ureteral cases was made on the following points: First, a faint X-ray shadow second passage of crushed eggshell like material, after manipulation with the ureter catheter third, passage of the catheter through the obstruction, relieving the patient of symptoms, X-ray shadow still persisting and finally the disappearance of the shadow after several manipulations with the ureter catheter. This seems to differentiate the true incrustation from calculus or sandy impaction.

In the treatment of the incrustations along the ureter the author mentions three procedures. First, the exposure of the ureter and opening it along the whole length of the incrustation and removing all of the material under the guidance of the eye. This procedure he believes, should only be attempted as a last resort as the chance of secondary stricture would be extremely grave and in all probability nephrectomy would have to be the final move. The

second procedure consists of opening the ureter and by means of a small blunt curette which is introduced into the lumen, removing the calcareous material. Third, removal by means of the ureter catheter. This last procedure is believed to be the method of choice, at least it should be given a trial before more radical measures are attempted. By this method the author was able to remove completely the incrustations of the two cases reported.

Oppenheimer. Pyelitis (Die Pyelitis). *Zisch f. urol. Chir.* 9, 5, 1, 7. By Zentralbl. f. d. ges. Chir. u. L. Grossegeb.

Oppenheimer details carefully the pathology of pyelitis after observation of 60 cases, seventy-six of which were under his care. In the vast majority of cases the coli bacillus was present in two instances a new finding was noted inasmuch as the bacterium fecalium alcaligenes was isolated. In regard to the manner of infection Oppenheimer suggests the following opinions:

If remote pus accumulation is considered to be the source of infection, the infection of the renal pelvis takes place via the blood stream. Such is also the case even when the original source of infection is unknown and where there is an obstruction of the ureter high up and the distal part of the urinary tract is found negative. In case of inflammation of the lower urinary tract (trigonitis) with changes in the ureteral ridges, esp. in lower placed obstruction of the ureter then an ascending type of infection is probably present. He details further symptomatology course and diagnosis of the various types of pyelitis: the unusual gonorrheal, the pyelitis following intestinal disturbances, pyelitis as an effect of stricture, and pyelitis of children, especially that of little girls. While ascending infection is possible Oppenheimer considers the descending type as more likely to obtain in the majority of cases inasmuch as cystitis is often absent. Two cases were observed after infectious diseases. In regard to the pathogenesis of pyelitis in pregnancy Oppenheimer believes that infection is of first importance and passive congestion of secondary consequence. Therapeutically the following fundamental principles are followed:

Every acute pyelitis is to be treated conservatively unless there is some definite reason otherwise, namely by rest in bed, the use of large amounts of fluids and urinary antiseptics. Alkali mineral waters are contra-indicated rather drop doses of HCl. For the first week strict milk diet is permitted then for the next ten days milk and vegetable diet. The patient remains in bed 10 days after all fever has disappeared. Forced intake of fluids

according to Rovsing (6 to 10 liters per day) is admissible. As urinary antiseptic salol in large doses is given (4 to 5 gm. daily) in spite of the presence of phenol in the urine, no renal lesions or disturbances have been noted, and no miscarriage precipitated. Instead urotropin in large doses may be advised (4 to 5 gm.) especially in after treatment. The use of boroverlin, heal etc. demonstrated no better results than the above mentioned drugs. In seven cases the patients were to rest in bed on the back and not to turn on the side.

The author noted no influence from vaccine treatment tried in two cases. The great majority of acute pyelitis cases recover on this mode of treatment, though it may require several months and after repeated recurrences. Ureteral catheterization in the acute stage is indicated either with or without lavage of renal pelvis only in the presence of intense congestion, severe pain and poor general condition of the patient. Its use in the subacute type is recommended when the fever does not spontaneously disappear. With this condition as indication, Oppenheimer catheterized the ureters in three cases with excellent results, while during the acute stage he made use of the procedure but once, and then without any benefit. Lavage of the renal pelvis is uncertain permanent drainage for fourteen days is recommended. While the author does not consider nephrotomy harmless procedure, when other methods fail in severe cases it must be resorted to. Kruza.

Ertzbachoff: The Pathological Physiology of Renal Decapsulation and the Indications and Contra-indications for the Operation. *Am. J. Urol.* 9 3, 12, 38.

By Surg., Gynec. & Obst.

The author reviews concisely the pathological and experimental work bearing on renal decapsulation, its effect on the renal tissues and the resulting physiological changes, concluding with indications and contra-indications for the operation.

He does not support Edebohl's theory of the pathology i. e., that regeneration and proliferation of renal epithelium occurs, besides avascularization. He points out that classically there are often striking immediate results, such as cessation of pain and hematuria, increase in diuresis, etc. He mentions Jaboulay's theory of vasomotor changes in renal vessels resulting from stretching of the sympathetic nerve-fibres in the pedicle. While Claude and Balthazard have shown experimentally that the proportion of urea and salts excreted are increased he believes it is generally agreed that this is not due to actual increased blood supply but, according to Mongour is the result of lessened intravascular tension and consequent rise of arterial pressure within the kidney causing improved elimination.

The uterine effects, cessation of edema and diminution in amount of albumen are not constant; but heart and eye conditions are usually benefited.

There is no evidence to support the fear that future trouble may arise from the contraction of the new formed capsule or adhesions about the kidney. Excepting Edebohl's, there are no case reports tending to show the operation to be curative. The author believes it merely to be palliative by lessening any temporary renal insufficiency which is superadded to the nephritic lesion. It may however arrest the evolution of the nephritic process.

He mentions indications for the operation in acute and chronic cases, and discusses briefly the question of unilateral or bilateral decapsulation, and the use of renal sufficiency tests in diagnosis of the lesion.

II. Bunker

Potterson: Contribution to the Surgery of Nephritides (Beitrag zur Chirurgie der Nephritiden). *Berl. Klin. Wochenschr.* 1913, 1, 312.

By Zahnradl, L. d. gen. Chir. I. Gernagab.

In order to place the surgical treatment of the nephritides on a broader basis in the future, it is necessary to establish the indications and contra-indications exactly. Nephrotomy removes the lateral renal tension, further it relieves the organ by the copious hemorrhage, through which microbes, necrotic epithelium blocking the urinary tubules and toxins are swept away and, finally the various secretions are removed by the prolonged drainage of the pelvis of the kidney. The effect of splitting the kidney must be considered in both forms of acute nephritis, the toxic as well as the infectious. Surgical intervention is urgently required when internal remedies, as diuretics, venesection, etc., fail and when in addition to fever with severe general disturbance diminution in the quantity of urine secreted takes place. Nephrotomy must be considered first, then decapsulation not nephrectomy because the kidney as a excretory organ, even when itself diseased helps to eliminate toxic-infectious bodies from the organism. Among the chronic nephritides the painful forms will be the first discussed. The pain originates partially from the pressure exerted by the sclerosed capsule on the organ, partially from the congestion of the parenchyma produced by the morbid process. The "painful nephritides are only exceptionally Bright more often they are caused by nephrolithiasis, inflammatory affections of the adnexa, trauma, etc. Among the operations to be considered for this form of chronic nephritis preference must be given to nephrotomy, which may be combined with capsulectomy. In hematuric nephritides are characterized by being mostly partial, i. e., the process is confined to small areas of the parenchyma. The circulation is disturbed by these lesions there is stasis of blood in the capillaries and canals, which easily leads to rupture of the atrophic and diseased vessels. Here also nephrotomy can regulate the swelling of the parenchyma. Potterson secured more favorable results with it than with nephrectomy. The chronic nephritides, which are complicated by severe and threatening symptomatic accidents, and in which, therefore palliative

treatment should be instituted present the three chief symptoms, oedema, uræmia and oliguria, either singly in various combinations. Among

53 cases treated by operation, sixty three operative deaths are to be recorded, i. e., mortality of 4 per cent.

Of ninety cases twenty-four died after an interval of three months to two years from accidents which must still be brought in connection with the chronic nephritis, from recurrences those operated for uræmia remained alive for the longest time. Sixty-six are living and were observed over larger intervals. The operative mortality is the least in patients suffering only from oedema, and the greatest when uræmia and oliguria without oedema are present. A middle place is occupied by the cases with oedema and uræmia, which are still favorable, compared with those presenting all three symptoms. Among the sixty-six observed for a longer time, there were registered twenty-three markedly improved, twenty five improved, three slightly improved and six without improvement. The ocular disturbances in the course of the disease must also be considered among the indications, as functional disturbances do not contra-indicate operative interference, while in the presence of anatomical changes an operation must be considered with great reserve. Further contra-indications are myocarditis, atheromatous degeneration of the larger vessels, and severe pulmonary phenomena. Decapsulation was carried out in the majority of cases, but even here nephrectomy is justified, notably in severe uræmic intoxication. The question, whether operation (decapsulation or nephrectomy) can provoke healing of the morbid process in the kidney. Pouchon would answer in the negative but, at any rate, the relief of pressure in the organ produces compensatory hypertrophy of the uninjured areas.

ROBINSON

Henschen Nephropexy by Suspension with Transplanted Fascia (Nephropexie vermittelst transplantierter Bänder oder fasciælen Aufhängen) *Arch f. Klin. Chir.* 93, 6, 662.

By Zentgraf f. d. ges. Chir. u. l. Genußg.

Henschen has developed a method of operation for floating kidney which obviates the disadvantages of unipolar fixation. It consists in enveloping the organ in a large non-pedicle flap of fascia lata. He employed this procedure in one case with success. The patient was a slender woman, 35 years of age. A flap 20-3 cm. was taken from the fascia lata. This flap was divided in half by a longitudinal incision up to its center here a hole was cut for the hilus of the kidney. The fascial flap was then folded about the kidney and fixed by fine silk sutures. Finally the fascial flap was attached to the quadratus lumborum, the lumbodorsalis and the muscles of the posterior wall of the renal niche. The result was good and permanent, as could be ascertained at a subsequent examination.

NOTES

Leguen The Clinical Value and Interpretation of the Constant of Urea Secretion (Valeur clinique et interprétation de la constante uréo-sécrétoire). *J. d'Urol.*, 93, 12, 189. By Journal de Chirurgie.

Nephritis, usually of a mixed type, is present in all cases of obstruction of the lower urinary tract there is also a varying degree of arterial hypertension. In the blood there is an excess of nitrogen or chlorides, both.

Leguen dwells upon the symptom-complex due to nitrogen retention in the blood, and shows the value of Ambard's constant of urea secretion and how it completes the dosage of the blood urea, and how it must be interpreted in surgical work. This constant is based on the following laws of urea excretion, as set forth by Ambard: (1) When a kidney eliminates urea under a constant concentration the output varies in direct proportion to the square of the urea concentration of the blood (2) when the urea concentration of the blood remaining constant, the concentration of the excreted urea varies, the urea output is in inverse proportion to the square root of the urea concentration of the blood (3) when the urea concentration of the blood and that of the urine both vary the urea output varies in direct proportion to the square of the urea concentration of the blood, and in inverse proportion to the square root of the urea concentration of the urine.

There is, therefore in all individuals, a constant proportion between the urea content in the blood and the square root of the urea output which proportion is the constant of urea secretion. Said constant is normally about 0.70. When the power of urea excretion of the kidney is impaired, it rises and approximately reaches 0.80 in individuals having lost about half of their excreting power. These figures are accepted as basis for the clinical interpretation of Ambard's constant. Other pathological conditions lower the constant; for instance, nephritis of the dropsical type (called by French authors hydrophigénous) and albuminuria. Consequently a lowering of the constant is almost as important as a raising of the same, and a figure markedly below 0.60 is suggestive of hydrophigénous nephritis.

In renal surgery the study of the constant of urea secretion is a guide for operative indications and contra-indications. It is particularly valuable when ureteral catheterization cannot be performed or when, after ureteral catheterization, there remains doubt as to the value of the supposedly sound kidney or when bilateral lesions are suspected. If the constant is above 0.70 the lesions are very likely bilateral; if below 0.7 the other kidney is sound and nephrectomy is indicated.

The same constant affords valuable data in the surgery of obstructions of the lower urinary tract and particularly when it comes to deciding for or against prostatectomy. Cases of prostatic hypertrophy belong to one of the three following groups: (1) Those having a high constant 1.00 or more the nitrogen content of the blood is also high, 45 gm. or more. These patients are inoperable at least

temporarily until preliminary treatment and diet bring about improvement. (2) Those having low constant 120 or less these regarded as provided the low constant benefit due to concomitant hydro-nephroses nephritis. (3) Those having constant 100 or less 120 a day 30 with a nitrogen content in the blood of about 401 gm.

Not all cases the results of the study of the content of ure secretion must be interpreted and qualified by the parallel study of the element has a term of hydro-nephroses nephritis namely albumin and distal balance of the creatinine. The results are safer in those than those known test of renal function. It is of course out operation contraindication is not advisable to select the time of operation when in the interim of a right kidney the least damage for the patient. J. T.

Fromme and R. H. Test for Renal Efficiency by Means of Phenolsulphophthalalein (Der Nierenfunktionsversuch mit dem Phenolsulphophthalalein). *M. w. n. Z. u. B.* 9: 1, 1933.

B. Zentrall. f. d. ges. Chir. Geburtsh. u. Gynäk. Fromme and R. H. Test for the renal efficiency by means of phenolsulphophthalalein. One of the kidneys is active and not to be recommended. This is on reduction of the operation expressed by Rumpfs and Geraghty and also the results obtained by Sulzer and others. The authors use their own own on test in the phenolsulphophthalalein on 20 women with normal kidneys. While the boys mentioned contraindications had 11 normal persons after 1 hour the 1 to 6 per cent, and usually no 1 per cent of the preparation is tested. Fromme and Rubine had only 5 9 per cent tested after 1 hour. Only after three hours will they determine 60-75 per cent and then thus they found excretion in normal individuals. I have cases among my observation after repeated examination 60 per cent was never reached, and the amount excreted varied between 30 per cent and 60 per cent. Inasmuch the conditions of excretion are so varied in the various inhibition of the drug it is recommended. By this method on average 6 per cent excreted in three hours never less than 60 per cent and usually much more up to 100 per cent.

Fromme and R. H. Test for the creatinine of phenolsulphophthalalein begins first 5 minutes when injected intramuscularly. K. von.

Strasman. The Influence of Collargol Injection on the Kidney and the Kidney Pelvis (Der Einfluss von Collargol-Injektionen auf Niere und Nierenbecken). *Z. f. urol. Chir.* 9: 3, 36. By Zentrall. f. d. ges. Chir. Geburtsh. u. Gynäk.

After employing Voelker and von Lichtenberg diagnostic method of injecting the urinary tract with collargol to make it visible by X-ray. Oelchert observed areas of necrosis of the renal pelvis in 11 cases. In

jected under rather high pressure. Zachariassen found case one year after injecting healthy kidney. Jewell reports embolic gangrene of Eckhorn. Oedema of the kidney. Roudie observed fatal case of collargol poisoning in patient with hemorrhagic diathesis resulting in parenchymatous hemorrhages from the stomach, bowel and lungs with bleeding into locular cavities. Microscopic examination showed necrosis of the mucosa of the renal pelvis and infiltration of the underlying muscularis by the collargol having precipitated in small dark brown clumps. The solution had penetrated the kidney tubules and had even reached the collecting tubules under the capsule. Here and there the tubules had been ruptured. Blum describes series of injuries after collargol injection which he observed on kidneys removed post mortem and by operation. After emphasizing the fact that the

in the instigations of Blum are not conclusive since in dead kidneys it is very difficult to distinguish between actual necrosis and calcareous degeneration, Trautmann made void that the influence of collargol on the renal pelvis of rabbits. The writers are interested in above the bladder and after the destruction of the mucosa had produced dilatation of the ureters was increased and can be inserted. Through this the renal pelvis was injected under moderate pressure with one or two cc. of a 1 per cent collargol solution. These in conjunction showed that part of the collargol remained for considerable time in the renal pelvis, but some rapidly diffused through the connective tissue and by this route reached the cortex. Where the collargol had penetrated the connective tissue the fibers could not see changes in the epithelium and hold that the solution travels by the normal connective tissue spaces. Invasion of the urinary tubules could not be demonstrated. In fact, after reflexly filling the pelvis the author could detect no injury to the kidney and he therefore concludes that his animal experiment justifies the opinion that the injection of collargol in proper amount and under moderate and careful pressure into the renal pelvis does not produce harmful results and in no way brings about noteworthy changes in the pelvis of the kidney. Let. strass.

BLADDER, URETHRA, AND PENIS

Woolsey. Three Unusual Cases of Rupture of the Bladder. *T. Am. Surg. Ass.* 10: 3, 34. By Surg. O. nec. & Obst.

The usual cause of rupture of the bladder is the violence of pelvic fracture in injury to full bladder. Rely the bladder has not been fully and then the rupture is extraperitoneal. In some cases there is no history of trauma (idiopathic rupture) but usually there is some underlying cause such as urethral stricture, hypertrophy of the prostate, vesical calculus, etc. leading to overdistension or sacculization of the bladder. Apart from such cases, idiopathic rupture is rare.

Case was alcoholic. After drinking heavily he awoke at midnight, went home and was awakened at 4:00 A. M. by violent abdominal pain, which proved to be due to intra-abdominal rupture of the bladder. Trauma was denied but can never be excluded in alcoholics. The rupture may have been due to overdistention with or without muscular action which may produce rupture. Alcoholism predisposes to rupture by causing rapid distention, obtruding the bladder sensibility and relaxing the abdominal muscles which guard the bladder from injury. It is a question whether the normal bladder ever ruptures spontaneously without the presence of pathologic changes.

Case was alcoholic but not drunk. \ History of trauma or previous bladder trouble. Sudden onset six days before, with symptoms of appendicitis, nausea and vomiting, pain and tenderness in the right lower quadrant, etc. T. previous, similar slighter attacks. When seen condition was very poor, constant hiccoughs, poor pulse, etc. There was mucus in the right lower quadrant which was found to be due to a large quantity of ammoniacal purulent urine situated retroperitoneally. The X-ray showed no stone and cystoscopic examination revealed a transverse rent behind the right ureter mouth. Urine was alkaline and passed mostly through incision for some time. \ sign of ulcer in bladder. The appendix as normal. The patient made slow but perfect recovery and has remained well since—4 years.

In Case 3 the bladder as full but the trauma was indirect, being due to a fall from the first floor fire escape while asleep. There was no pelvic fracture. The rupture was extraperitoneal, but some urine was in the peritoneal cavity though no peritoneal tea could be found. Only part of measured amount of fluid was injected, and returned by catheter.

This procedure is seldom necessary and also is unwise, unless followed by operation at once if rupture is present. The danger however is due to the catheterization rather than the injection of fluid. The chief danger of infection is from an infected urethra. Sterile urine does not cause peritonitis, but if it has no free outlet it may become decomposed and cause irritation.

Catgut is preferred to silk for suture. Trendelenburg position is very valuable in suturing tear in bladder. Bladder drainage by permanent catheter is preferable, unless there is infection of the urethra. The first case died of pneumococci on the fourth day the others recovered.

Van Dem Th. Radical Treatment of Congenital Diverticulum of the Bladder (*Die radikale Behandlung angeborener Blasendivertikel*). *Arch. u. Hist. Chir.*, 9, 3, 1901, 320.

By Zentgraf, I. d. ges. Chir. u. i. Grenzgeb.

The author reports case of large diverticulum in the posterior wall of the bladder in man 55 years old. The patient had hematuria for 5 years,

dysuria for three months and retention for two days. Was operated on without further examination on a diagnosis of prostatic hypertrophy. Through the supra-pubic incision a diverticulum 14.5 cm. long was discovered, the true nature of which was determined after opening the peritoneal cavity. The diverticulum was drawn out by means of forceps, tipped over towards the bladder and removed. Recovery good. Histological examination confirmed the diagnosis of true congenital diverticulum of the urinary bladder. Fifteen cases of radical extirpation of diverticula of the bladder were collected by the author. There were ten cases of diverticula of the anterior or lateral wall of the bladder without a ureter in the wall. For the extirpation of these the extravascular route is indicated. In three cases the location was the same but the ureter coursed through the wall of the diverticulum. These were operated on by the combined extra and intra vesical route. In only two cases, treated radically as the diverticulum on the posterior wall and the other case was the only one that was operated on by the purely transvesical method.

Von LACROIX.

Kelly and Lewis. Skiagraphic Demonstration of Vesical Tumors. *Surg. Gynec. & Obst.* 9, 3, 1901, 303.
By Surg., Gynec. & Obst.

As rule, tumors of the urinary bladder offer as little resistance to the passage of the X-rays as do the normal parts, consequently no matter how large the tumor, skiagram made of the unprepared bladder with its contained growth will show neither bladder nor tumor.

The bladder shadow is easily obtained by injecting air, water or any of the less permeable media, though this method will not satisfactorily show the boundaries of the contained growth. It is then necessary to resort to slightly more complicated method of procedure.

The first illustration showed a large papilloma of the bladder. A suspension was made of bismuth subnitrate, gum tragacanth, and water. This was shaken up and rapidly run into the bladder and the radiogram taken at once.

The bismuth evidently settled from the emulsion and filtered into the interstices on the irregular surface of the growth. As result of this precipitation the cauliflower-like outline of the tumor is beautifully shown. The mass is conglomerate of large growths. About the tumor is seen a dark zone, which represents the remainder of the bismuth suspension. The gray area above it is accounted for by the presence of air or water.

In the second case the authors deal with vesical papilloma. In this instance it directly overles the internal meatus of the urethra.

Here instead of bismuth suspension 4 cc. of 5 per cent silver iodide emulsion was injected into the bladder. About half the amount injected was then voided. The bladder was then distended with air.

Here it was noticed that the irregularity of the

surface was not all shown. This was doubtless due to the fact that in the present instance a better emulsion as employed than before. The thick silver solution did not enter the surface cracks, and consequently but little surface detail is discovered. More important though than showing the surface outline is the clear demonstration of the pedicle of the growth. Remembering the exaggeration of the size of objects in the living stereograms, the authors were able to estimate roughly the dimension of both pedicle and tumor.

In their next case of this sort the authors propose to combine the methods of injection described, hoping to float up the tumor with the thick silver solution and display the pedicle at the same time obtaining good surface detail by the use of suspension of bluish ink.

The authors have been using silver iodide emulsion in urethral injections as a means of the bladder for X-ray purposes. They believe that it has certain decided advantages over collargol and they have number of unusually good photographs of the renal pelvis, ureter and bladder taken by this method.

VI. Excision of the Bladder in Operation of Necessity and Expediency. *J. Am Surg Ass.*
9 May 1914 H. Berg, Green & Co. of

To determine the best method of disposing of the secretions of the kidneys in individual in whom it is necessary or expedient to excise the bladder remains still one of the serious problems of surgery. To say however that the modern method of operation in these cases expose the patient to greater danger from infection than is compensatory with the mitigation of his suffering considering the natural mortality of the disease is not consistent with the history of the patient or the record of the progress of surgery.

The patients under discussion may be grouped under three headings: (1) Those suffering from congenital anomalies of the bladder or urethra of character not to permit excision with controllable urine or to free them from painful sequelae. (2) Those in whom sections of the ureter are necessarily or accidentally injured or removed during abdominal, pelvic or sacral operations. (3) Those in whom malignant disease of the urinary bladder is too extensive to permit removal by partial resection. (4) The bladder with retentive infection, and those in whom gross malignant or other disease of the bladder exists but in whom the loss of power of retention and control adds to their suffering.

A modern surgeon has devised ingenious methods for making bladder the recipient of cases in the first group. For example: (1) bladder made of skin flaps. (2) the compression of the bony pelvis. (3) lowering the bladder and covering it with an anterior bony rib by freeing the sacro-iliac joints, etc. Control in such cases is rare and cystitis and infection of the kidney is common.

In the second group are those cases in which the injured ureter cannot be reunited itself or reat-

tached to the bladder the injured ureter may be reunited with the other ureter if that be present, or one or both ureters may be united to the colon. Direct drainage to the skin has been devised. These operations are done extraperitoneally the urine being collected by special apparatus.

In the third group are cases of extensive involvement in which part or all of the bladder has been removed. In the former the ureters are sometimes transplanted to the opposite remaining portion of the bladder. In the latter the ureters may be implanted into the rectum.

It would appear that the best theoretical and practical anastomosis of the ureter with the large bowel is that which either permits the ureters to traverse some distance between the mucosa and the outer wall of the bowel before penetrating its lumen or that which the ureters are imbedded by the wall of the bowel for a certain distance. That method which transposes the base of the bladder to make it a part of the rectum wall is also a good one. The control against regurgitation is due to the closure of the distal end by compression in the wall of the bowel.

In eight cases of cancer transperitoneal resection of large areas of the bladder was done with transplantation of the ureter to the opposite side. In three cases of cancer the bladder was completely removed. (1) Female aged 6 ureters transplanted into rectum operation recovery died some weeks later from cerebral hemorrhage. (2) Female aged 70. The ureter was attached to the base of the urethra by the Sonnenberg method. The patient was in good health one year when she died from acute infection of the kidney. (3) Male aged 70. The ureter was transplanted into the back—transplanted to the back. The patient has been well for more than three years.

In four cases of atrophy the ureter transplanted into the bladder no deaths.

GENITAL ORGANS

James and Abner. Seminal Calculi Mimulating Nephrolithiasis. *Surg. Gynec. & Obst.* 9, 3, 1914, 702.
By Surg. Green & Co.

That seminal calculi are a rare condition is evident on reviewing the literature. Fuller is quoted as stating that calculi in the seminal vesicles must be very rare and relates having met this condition but twice.

Calculi in the seminal vesicles may present the default—usual picture of renal stone—irritation from seminal calculi can be transmitted to the respective kidney or lumbar region through first, either the vesicle or prostatic filament of the inferior hypogastric or pelvic plexus; (2) the hypogastric plexus, hence through the ganglionic cord to the lumbar ganglia and either to the lumbar plexus and thence to the lumbar (lumbago) or through the aortic plexus, aortic-renal ganglia and renal plexus to the kidney substance (nephralgia) second, can be transmitted through the deferential plexus via

short route to the ganglionic cord third, the efferent filaments of the deferentia plexus and the genito-crural nerve to the lumbar region fourth, irritation may travel through the vas deferens filament of the pelvic sympathetic, the spermatic artery filament of the spermatic plexus and its numerous filaments to the renal lumbar ganglia. Thus may be produced by any one of the several routes, referred pain and tenderness.

A thorough investigation of this subject has failed to procure any operative or post-mortem proven cases to report other than the following.

Male aged 33, suffered from apparent right renal colic as evidenced by severe right-sided pain, rectus rigidity frequent micturition, pain referred to penis and marked pain on palpation of right kidney.

Urinary examination Chemically negative, microscopically few erythrocytes, epithellum and phosphates. Case diagnosed as probably right renal colic. Two days later the patient passed by urethra what he described as a slug. Physical examination at the time revealed a tender right kidney on palpation. Labor or forced exercise, excited pain in his right side. One month later physical examination evidenced the same findings.

Blood examination W B C. 7600 R. B C. picture normal Hemoglobin 80, blood pressure 0. Nephrotomy advised and accepted.

Under ether anesthesia, through a lumbar incision, the right kidney was sectioned and no stone present. Ureter patulous Incision closed and the kidney drained by sutured cigarette drain. Convalescence uneventful until removal of drain on seventh day following which urine became bloody patient later passing vermiform clots from the bladder. General condition continued to grow worse, due to the acute hemorrhagic anemia and cystic tenesmus due to blood clots contained therein.

Death occurred five weeks after operation, clinically from acute anemia due to hemorrhage from the right kidney.

A autopsy revealed the following findings. Right kidney pelvis filled with blood clots, one extending well up toward the cortex and continuous with an old patulous suture hole. Cortex evidenced an unhealed opening continuous with the superficial drainage tract. Left kidney ureters, and prostates negative. Vas deferens evidenced no change.

Seminal vesicle walls hypertrophied. Four calculi removed from the right vesicle, situated near the fundus, dull white in color and faceted, ranging in size from that of a grain of popcorn to that of field corn. Seminal fluid stained out many gram negative diplococci.

Chemical analysis yielded phosphate and carbonate of lime of 85% organic matter in which spermatozoa were found 5 per cent.

Pathological diagnosis

Pernicious anemia secondary to hemorrhage.

Suppurative-hemorrhagic nephritis of the right kidney

3. Chronic seminal vesiculitis with calculi for mation (dextra)

4. Chronic Neksterian infection

Luis Catheterization of the Ejaculatory Ducts
(Le catheterisme des canaux ejaculateurs) *Chirurgie*
Par J. No. 7 98.

By Journal de Chirurgie.

Luis has succeeded in catheterizing the ejaculatory duct and in healing a patient suffering from vesiculitis. The following is the first case reported in literature.

In August, 019, the patient had a profuse discharge with a double epididymitis, prostatitis and left vesiculitis. He received permanganate irrigation, massage of the prostate and dilatations. In January 03, the left vesicle was still painful and could not be emptied by massage since the ejaculatory duct was blocked. By the use of urethroscope No. 56 the author was able to see the orifices of the ejaculatory ducts. He then introduced a metal catheter which penetrated easily for one and one-half centimeters into the left ejaculatory duct which was filled with oxytungen. He then massaged the seminal vesicle and found that it was no longer painful. The massaging expressed large purulent masses which came out at the urethral meatus. It could seem clear from the above, says Luis, that the catheterization of the ejaculatory ducts should be considered in cases where there is obstruction of the lumen with imperfect evacuation of the seminal vesicles.

The author concludes by giving the indications for and the technique used in the catheterization which requires thorough knowledge of posterior urethroscopy.

E. JEANBAU

SURGERY OF THE EYE AND EAR

EYE

Ray. Scleral Decompression in the Treatment of Intra-ocular Tension. *Am. J. Ophth.* 9:3, 24, 41.
By Surg., Gynec. & Obst.

Ray gives an abbreviated list of the changes in all those conditions in which the intraocular tension is pathologically increased and states that it is apparent that the essential object of treatment for the relief or cure of such cases is to permit the free drainage of the eye fluid as he obtained by the present time iridectomy has been the most effective intra or extra bulbar operative measure for the relief of increased tension since MacKenzie made use of posterior sclerotomy over seventy years ago. The most lasting result following this procedure have been observed in those cases where resulting cystoid degeneration made unsatisfactory leakage possible. This observation led to the advice that pieces of iris be purposely carried into the lacrima in order to either insure the establishment of leakage or fragments of iris may heal into the canal with but little or no harm. If future danger but the consolidation of such scars might be indefinitely interfered with and thus render the eye vulnerable to bacterial infection along the spongy track. The latest advance in the treatment of glaucoma has been designed to bring about a permanent filtration scar through the sclera at the extreme boundary of the anterior chamber without incarceration of iris in the opening. This idea was first suggested by Herbert, and made use of by placing pieces of conjunctiva or mixed sclera between the lips of a corneo-scleral incision, so as to prevent complete closure. Later Lagrange excised strips of sclera after incision made well back and then covered the opening with large conjunctival flap.

The author believes, however that new era in the treatment of glaucoma commenced when Fergusson and Elliott each independently introduced the scleral trephine. A large triangular flap of conjunctiva is raised at the limbus, is directed up and carried into the limbus corner then a millimeter trephine used to remove disc of scleral tissue at the corneo-scleral angle. Now that the extreme angle of the anterior chamber has been entered small iridectomy is made, the conjunctival flap is replaced over the scleral opening, and the subconjunctival leakage of aqueous takes place. This technique was followed in cases of acute glaucoma with great pain and high tension to cases of glaucoma simplex, and one case of bydrophthalmos, in all of which the tension as reduced to normal and not followed by permanent rise since the operation.

The author concludes with the statement that there is no question that the only glaucomatous operated eyes that are permanently benefited are those where some leakage of the eye fluid takes place and that this desired end is most efficiently accomplished by scleral trephine. Fergusson L. 2.

Verhoeff. The Effect of Chronic Glaucoma on the Central Retinal Vessels. *Arch. Ophth.* 9:3, 24, 41.
By Surg., Gynec. & Obst.

Verhoeff has made a careful microscopic study of serial cross-sections of the optic nerve in the region of the lamina cribrosa in thirty-nine cases of secondary glaucoma due to lesions of the anterior segment of the globe. Not thrombosis, but an endovascularitis of one or both of the central vessels, more often the vein, as found in every one of the cases. Age of the patient and duration of the increased pressure did not particularly bear direct relationship to the degree of the vascular changes, but so general it could be concluded that these changes occurred the more rapidly the older the individual.

In some cases there was complete and in two almost complete obstruction of the central artery. One section is pictured in which the cells immediately about the lumen showed very active proliferation. In almost complete obstruction from an folding of other cases, probably here the process was more slow elastic tissues with tendency to undergo necrosis as seen to almost completely block the lumen. As result of the degeneration an inner t he was often found to be completely separated off by space filled with blood thus forming dissecting aneurysm.

The changes in the veins, subject to variation were analogous to those in the arteries. In most instances the walls were never involved and partially collapsed into the lumen. Complete obstruction of the vein as found in eight cases, three of which showed retinal hemorrhages, importance of which warranted detailed description. Bundles of neuroglia encroached upon the walls of four veins was Herbert's unrecognized condition which might easily have been mistaken for active proliferated endothelial cells. A dissecting aneurysm of one vein, showing a branch entering the surrounding space as another unusual finding.

Expulsive subchoroidal hemorrhage had occurred in four cases, with almost complete obstruction of the vein in one and of the artery in two.

Three factors must be considered to account for these vessel changes in secondary glaucoma. First, the direct action of the increased intraocular pressure on the central vascular system,

the action on the central vessels of toxic substances resulting from the relative stagnation of the intra-ocular fluid, and lastly the traction on the vessels produced by the receding lamina cribrosa.

In view of the fact that complete almost complete obliteration of the central vein was found in a little less than on half of the cases, it is remarkable how infrequently retinal hemorrhages occurred and the ingenious explanation for the absence of such an expected condition is made on the ground that the artery is so often simultaneously involved and that the slowness of the process allows of adequate collateral circulation in the optic nerve.

J. B. ELLIS.

Ritchie. The Management of Acute Hemorrhagic Glaucoma with Advanced Arteriosclerosis. *J. Ophth. Otol. & Laryngol.* 9 3, xiv, 96
By Surg., Gynec. & Obst.

In this article the importance of the pathology of the disease as a whole is brought out with discussion of the treatment of the systemic condition and the local manifestations in the eye.

It is generally accepted by recent authorities that the cause of pterocoma is the retention of the product of intestinal putrefaction due to faulty metabolism, on the tissues of the circulatory and nervous systems.

It is necessary to differentiate between hemorrhagic glaucoma and hemorrhages that occur in an eye which is already the seat of a glaucomatous process, although they are both the result of the same cause.

The general constitutional treatment is essential. Hygienic conditions must be carefully looked after. Diet of low protein character suitable for this condition should be adhered to. The urine should be examined regularly for indications of intestinal toxemia. Tepid baths with the addition of sodium bicarbonate are of benefit. Electrotherapy is of great value as are electric light treatments.

Medicinally the author follows the homoeopathic indications but speaks of the value of sodium iodide the alkaloid veratrin and the Bulgarian lactic acid bacilli (tablet form).

In the treatment of the ocular condition there is some difference of opinion as to the advisability of operative treatment but the author believes that the operations can be performed safely under local anesthetic (1 per cent solution of cocaine in combination with some of the essential oils, and suprarenal). The technique is such in any of the operations that if great care is taken the tension can be reduced very gradually.

EARLE B. FOWLER.

Denman. The Surgical Treatment of Glaucoma with Special Reference to the Substitutes for Iridectomy. *J. Ophth. Otol. & Laryngol.* 9 3, xiv, 95
By Surg., Gynec. & Obst.

The author takes up the history and reasons for the important position that iridectomy holds

among the operative measures for the treatment of glaucoma, with the theories for its action a list of the more recent operative procedures and the technique of trephine sclerectomy and cycloidalysis.

The results of iridectomy have been attributed to the part the stump of the iris plays in absorption and by widening of the filtration angle. It must be classed always as a major operation and as such it is to be excused if followed by such sequelae as atropia and coloboma with their visual disturbances. The operation which will accomplish the reduction of the tension in the surest and safest manner with the least resulting deformity and leave the eye in the most nearly normal state is the one which we should choose.

In trephine circles of scleral tissue about 2 mm. in diameter is removed in the region of the limbus and the aqueous drains through the aperture under the conjunctiva. This may be done with or without peripheral or pupillary iridectomy.

In performing cycloidalysis care must be taken in the selection of the location of the incision so that the larger blood vessels may be avoided the spatula must be advanced with the point pressed firmly but gently against the sclera or it may perforate the root of the iris and enter the anterior chamber but when withdrawn will not leave a drain as the puncture in the iris quickly heals. Too great pressure forward may cause the point to enter the corneal stroma so that the anterior chamber is not drained. Properly performed the eye does not show any evidence of having been operated on there are no visual disturbances there is a round normal pupil which is still susceptible to the influence of mydriatics and myotics.

EARLE B. FOWLER.

Parker. The Trephine Operation for Glaucoma with Exhibition of Patients. *Phys. & Surg.* 9 3, xiv, 3
By Surg., Gynec. & Obst.

Parker reports two cases of glaucoma on which he did trephining operation, one case being in a patient seventy years old with simple glaucoma. R. V. 3/60, tension 75 mm. L. V. 3/60, tension 55 mm. Iridectomy done on right eye, trephining operation on left eye. Tension normal in both eyes seventeen weeks later although tension increased to 50 mm. 100 mm. three months after operation.

Case was child three years old with buphthalmus tension Right and left eye 45 mm. Results of operation not known as yet.

C. G. DARLINGTON.

J. Henson. Some Points in the History and Pathology of Trachoma and New Treatment for Chronic Trachoma. *Trans. Med. Soc. N. S. W.* 9 3, viii, 74
By Surg., Gynec. & Obst.

Henson discusses the history of trachoma, the effect of elevation on the disease, its characteristic features, its causes and the treatment of chronic trachoma.

In the treatment he says he has tried every method of treatment during an extensive experience of twenty-five years, and believes the method used by

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED

1. The first step is to identify the key components of the system. This includes understanding the hardware, software, and data involved.

1. The first step is to identify the problem. This involves understanding the current situation and what needs to be changed.

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I am your ever affectionate
father

[illegible]

He dug a hole in the ground, about half
the length of the boat, and dug it
down through the rest of the tilla, about half

This is a scroll into
and one then removes
the

edges are somewhat beveled. He finds it better to use a saw than a chisel for this purpose, as there is less possibility of injuring the periosteum, and if he follows this little precaution of first drilling a small hole the saw cannot slip.

The bone with its periosteum now being detached it is carefully immersed in a pair of forceps in warm saline solution. It is thereupon placed into the mastoid wound as quickly as possible in such a manner that its raw surfaces come in contact with the clean granulating surfaces of the mastoid bone itself. The skin is then carefully sutured with the exception of a small orifice in the lower angle, in which he places a small piece of gutta-percha drain for a few days.

If at the end of three or four days he finds that there is merely a slight mucous or malarial discharge, he removes the drain and allows the opening to close entirely.

The transplanted bone acts as a bridge, and upon this rests the skin of the mastoid region. From the transplanted living periosteum new osteogenic cells penetrate into the transplanted bone and gradually replace it by newly formed bone while union between the transplanted periosteum and the periosteum of the adjacent bony tissue also takes place.

The air space below the transplant fills up with blood clot which becomes organized and eventually replaced by new bone from the transplant so that after a time the cavity becomes obliterated.

It is important to remember that even in cases in which the bone transplant is resorbed portions of the entire transplanted periosteum remains. It eventually produces new bone formation which fills the defect created by the operation.

In performing bone transplantation the following precautions should be observed:

(1) The post-operative mastoid wound must be free from purulent secretion and covered with healthy granulations.

(2) The wound must not be curetted or bathed with antiseptic solutions.

(3) Transplantation must be performed as

secondary operation and may be undertaken a week, ten days, or even longer after the primary operation, depending entirely on the condition of the mastoid cavity.

(4) The bone flap must be taken from the patient's own tibia. In other words, an autogenous transplantation.

(5) Bone alone is insufficient; one must always take the bone with its living periosteum attached. This has been conclusively demonstrated by the experiments of Olfert as early as 1858 and confirmed later by Radcliffe, Marchand, Bonome and others, and more recently by Aukhausen. The consensus of opinion of most investigators proves that in order to make a bone transplant viable it is imperative to preserve the healthy living periosteum.

(6) The periosteum must not be injured, for if it is, the ultimate result will be doubtful. The chances of a cure are much greater with an uninjured periosteum.

(7) In making the bone flap one must handle it as little as possible so as to avoid injury and infection.

(8) Inasmuch as a good blood supply is absolutely essential to the successful issue of all kinds of transplantation it is advisable to make use of this method only in such cases in which good vascular bed for the transplant is present. This would exclude those cases in which there is hard, ebullient sclerotic mastoid bone.

Transplantation of the bone in mastoid surgery is a procedure which the author does not regard as a routine measure. He is of the opinion however that it is of value in cases in which there is a clean granulating wound.

In conclusion the author states that a few cases are indeed insufficient to prove the value of any surgical procedure. However he feels that the encouraging results obtained by these first attempts at solid bone graft in mastoid wound do justify a belated first attempt of this kind, demonstrating the feasibility of this method, and trusts that future cases will prove it of value in the post-operative treatment of mastoid wounds.

is not a cure but only part of the necessary treatment, and that it is quite necessary to attend to the local condition of the postnasal space until all the catarrhal symptoms are gone.

Of course we can account for the adenoid facies, mouth breathing, and sluggish mentality of these patients on the ground of interference with the lymphatic circulation in the brain, but we cannot always connect the general symptoms found in many of these cases with the postnasal obstruction.

The condition of the general system is as much a matter for consideration in these cases as the local condition in the naso-pharynx.

The permanency of the cure depends as much upon our ability to build up the general health, and the constitutional resistance to pathological invasion, as it does upon the removal of the local obstruction.

Contrary to the general report we have found a tubercular family history in 75 per cent of the cases of pronounced adenoid hypertrophy.

The most valuable local treatment in these cases has been the application of adrenalin chloride solution through the nose. In this way we get the action of the remedy upon the turbinates as well as the postnasal space.

In the milder cases where there was a very positive objection to operative procedure we have seen a number of cases do very nicely upon this treatment alone.

The frequency of involvement of the eustachian tubes makes it imperative that they be opened and kept open until they will stay open of themselves.

Jackson: Decannulation and Intubation after Tracheotomy and Intubation Respectively
J. Am. Laryngol. Ass. 9, 3, May
 By Surg. Gynec. & Obst.

I have classified the different forms of laryngeal stenosis associated with difficult decannulation and extubation into the following types: panic spasmodic, paralytic, ankyrotic (rigid), neoplastic, hyperplastic cicatricial. Of the cicatricial type there are three subelases: (a) with loss of cartilage, (b) loss of mucosa tissue, (c) fibrous type. To prevent panic, which is, in his experience largely associated with nerve cell habit arising from previous terrifying asphyxias he drives corking the canula with rubber cork without the patient's knowledge until the patient has become accustomed to breathing through the mouth one factor in panic being that breathing through the short cut in the neck is so much easier than through the mouth even in the absence of stenosis. The spasmodic types are often dependent upon lesions which require treatment. Paralytic and ankyrotic cases are not much helped by simple cordectomy but excision of the entire larynx down to the perichondrium, beginning just anterior to the arytenoids, which must not be damaged the author has found to yield excellent results, though not so good as a voice as in cases where there is arytenoid mobility.

The removal of benign growths usually permits immediate decannulation of the patient. In papillomata however which are prone to recur it is necessary to watch the larynx and remove recurrences before they become stenotic. Removals and applications of alcohol in the intervals eventually establishes a fibrous condition of the mucosa which makes a poor soil on which papillomata will not grow.

Compression stenoses, peritracheal neoplasms, and hypertrophies of the thymus and thyroid glands are to be decannulated by external operations, thymopexy, thymectomy, thyroidectomy et al. stenoses being relieved in the meantime by a long tracheal cannula. In organic conditions outside of the paralytic and neoplastic forms, it is the result of inflammation and especially of the mixed infections following specific infections such as diphtheria, tuberculous diphtheria, typhoid fever etc., that produce the inflammatory deposits and cicatrizes. For these the author recommends endolaryngeal operations with forceps and knife by the direct method, and in such cases as the formation of an adventitious osseous cord. The author emphasizes his opinion that if the arytenoid cartilage and fold are not injured either by the original process or by the operation, the movement will pull out the cicatricial band and thus produce the new cord. In some instances, prolonged intubation has been used and in few instances the operation of laryngostomy must be finally resorted to keeping the larynx and trachea an open trough for many months until the cavity is lined with epidermal epithelium, after which plastic operation is done to close the wound. In post-diphtheritic cases, associated with hypertrophy above the intubation tube, the author recommends forceps removal of the hypertrophic tissue by the direct method. For subglottic hypertrophies, he has had excellent success with vertical lines, cauterizations, using guarded cautery knife to avoid sloughing the opposite hypertrophies. When one side is healed, the other is cauterized. This method has resulted in a cure in practically every case. The author reports twelve cases, all of which were permanently cured except one, which is still under treatment the period of treatment ranging from one week to four years. The author comes to the following conclusions:

The development of the direct method compels us to revise our opinions. A large proportion of the cases of laryngeal stenosis can now be handled endolaryngeally.

After all else has failed to decannulate laryngostomy should be resorted to. It will cure practically every case, but the treatment may in some instances extend over five or six years. Many cases can be cured in from three to six months.

3. The cases in which laryngostomy has failed are those in which the cartilaginous box of the larynx, or the subglottic rings, have been destroyed by necrosis. No stiffening is left to resist contraction. In such cases, if the loss of cartilage is great laryngostomy is contraindicated.

4. Laryngotomy is also contra-indicated in cases of incurable general disease such as advanced tuberculosis, tabes, disseminated sclerosis, nephritis malignancy etc.

5. General anesthesia has been the cause of more deaths in the handling of laryngeal stenosis than any other thing. It is the author's opinion that a general anesthetic is absolutely unjustifiable in any laryngeal case associated with even the slightest degree of stenosis, unless a tracheotomy has been done and it is absolutely certain that the tube is perfectly free and clear without granulations at the lower end. Either Jackson believes that general anesthesia is unnecessary. In going over the literature of these cases, and also personal communication the author is simply appalled at the enormous number of cases of death on the table from attempts to give general anesthesia in cases of laryngeal stenosis. If the operator feels that he must have general anesthesia the intratracheal insufflation of ether by the Eisberg method, either through the tracheostomy wound or through the mouth, is safe. Care must be exercised to see that there is ample space for the return flow.

Badgrow Congenital Membrane of the Larynx.

Proc. Roy. Soc. Med. 9 3, 66.

By Surg. Gyroc & Obst.

Examination of the patient, boy of six years, revealed membrane situated at the anterior commissure stretching between the cords, an opening only left in the posterior part of the glottis. There did not seem to be any interference with the respiration. The complaint was weakness of the voice. The question as to whether treatment be undertaken?

If tracheostomy of similar case the results of operation on which had been very unsatisfactory.

Donelan thought that while there was no interference with the respiration it would be better to avoid all treatment.

Powell said that the consensus of opinion seemed to be that the case should be left alone at present. If operation were found necessary he thought that the operation would be best performed through high tracheostomy and that after the removal of the web suitable silver plugs should be worn above and resting on the tracheostomy tube for a period of six to twelve months.

Grant said that the chief anxiety would be lest the child had one of the exanthemata in which case the laryngitis would be apt to be sufficient.

EARLE B. FOWLER

Abbe Malignant Disease of the Tongue and Mouth. *Med. Rev.* 9 3, 1904, 46.

By Surg. Gyroc & Obst.

In study of the records of the past ten years in his personal cases, including notes and illustrations

of 4 cancers of the tongue 15 leucoplakias, 27 sarcomas of the jaw and epiglottis 40 sarcomas of the pharynx and tonsil, and carcinomas of the mouth and cheeks besides many tumors of the lip, palate and buccal mucosa the author concludes:

Thorough surgery is still the supreme reliance in eradication of malignant disease of the mouth and an early resort to it is the patient's chief hope of cure. Radium has many interesting conquests in this field, but in advanced cases of cancer its good effect is transient. In giant celled sarcoma, it is a specific cure. The vicious causative effect of tobacco in the mouth is demonstrated. Leucoplakia has no curative remedy unless it be radium.

Papilloma and giant celled sarcoma succumb rapidly to the effects of the radium and the author regards it as a specific. In advanced cancer of the tongue of the so-called explosive type where there is great erosion and glandular enlargement, radium has controlled the process for a time, only to have the disease light up again. The action of the radium the author suspects, is due to the temporary control of the bacterial activity either by the specific bactericidal power of the radium or by hyperemia caused by the intense play of electrons in the tissue.

Tobacco either indirectly through the hot smoke coming in contact with the mucosa or the irritation of the pipe stem, or directly as from chewing, is given as the great cause of the leucoplakias and early cancerous degenerations. H. P. KUMM

Gosse and Dupulch Cancer of the Tongue in Young Subjects (Le cancer de la langue chez les jeunes sujets). *Rev. de chir.* 9, 1903, 202.

By Journal de Chirurgie.

Gosse and Dupulch report the case of a soldier, years of age who presented an unquestionable cancer of the tongue which had developed during seven months. Operation. Recurrence at the end of seven months and death without further operation. Histological examination verified the character of the tumor squamous-cell epithelioma.

The published cases of cancer of the tongue in subjects under 30 years of age number thirty. They are, therefore, rare but they are in contrast to this cancer in the adult more frequent in females. It is hardly possible to ascribe the cause of this class of patients to syphilis or chemical poisons.

The site of the lesion is more frequently on the edge of the tongue as a result of irritation by carious teeth. Glandular involvement is rare. The affection is very painful with radiating pains and numbness, but the general condition remains good for long time.

The only rational treatment is surgical. Survival is very short and recurrence rapid which emphasizes the peculiar gravity of this form of cancer.

J. OGDEN.

BIBLIOGRAPHY OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

NOTE.—The bold face figures in brackets at the right of reference indicates the page of this issue on which an abstract of the article referred to may be found.

Operative Surgery and Technique

- The technique of injections of common salt solutions
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AUGUST 1913

ABSTRACTS OF CURRENT LITERATURE GENERAL SURGERY SURGICAL TECHNIQUE

ANÆSTHETICS

Gatch, Gann and Mason. The Danger and Prevention of Severe Cardiac Strain During Anæsthesia. *J Am Med Ass*, 9 5 12, 13.
By Surg. Gynec. & Obst.

The thorax has also by animal experimentation the most fact is causing heart strain during anæsthesia. These factors are struggling pressure the abdominal viscera and the Trendelenburg position the latter being the most important. The conclusion is reached however that these agencies are harmless to normal hearts providing the breathing is adequate to prevent cyanosis.

Experiments dogs under ether anæsthesia are striking. Only four of fifteen dogs lived in the Trendelenburg position over and no quarter hours alone revived by artificial respiration, the average time of survival being ten minutes. The same results followed the change in position slight rise in blood pressure slight increase in the pulse rate and increasingly labored respirations, finally ceasing. In the authors opinion death is due to the sensitiveness of the respiratory center either. As long as the breathing is good, the animal withstands the head-down position about all effects, but when the breathing fails, the heart, poorly supplied with oxygen, has to pump blood supply made greater by gravity against blood pressure increased by asphyxia. Reasoning that if primary failure of respiration was responsible for the ill effects of the head-down position, this may be relieved by hypercapnia, which was found to be true.

In series of experiments with the thorax open, the heart could be revived by massage and artificial respiration, but though apparently normal, there was evidence of more or less permanent serious injury to the cardiac muscle. After second stop-

page of artificial respiration, its contractions ceased in less than ten minutes. During struggling under light anæsthesia, the heart could be seen to balloon out to a great size and soon ceased to contract.

These phenomena explain why the Trendelenburg position has no ill effect in normal heart with the respiration adequate and the muscles at rest. But when the breathing becomes inadequate during anæsthesia the mechanism by which the body compensates to the effects of gravity, the circulation becomes deranged. Asphyxia injures the cardiac muscle and raises blood pressure, while the Trendelenburg position causes an increased amount of blood to be quickly returned to the heart. This cardiac strain is greatly augmented if there is pressure on the intestines, Roy and Adams having found that abdominal compression increases the heart output 20.6 per cent.

The problem in practical anæsthesia is to minimize the dangers of these agencies the head-down position, struggling and abdominal pressure, which in the absence of asphyxia probably cannot injure the normal heart. The following suggestions are made:

The patient should be raised to and lowered from the Trendelenburg position slowly. In cardiac disease it should be used with caution.

Robust patients should be given morphine before operation and alcohol and morphine and alcohol should be administered without cynnoids.

Those with cardiac disease, pneumonia or emphysema should also be given morphine and anæsthetized slowly in the semi-recumbent position.

The production of hypercapnia protects in marked degree from respiratory failure and consequently from cardiac failure, which is always secondary to asphyxia.

L. K. ARMSTRONG

Spiegel The Choice of an Anesthetic: Operations for Acute Inflammatory Conditions of the Abdomen. *Die Wahl des Narkotikums bei Operationen wegen akuter entzündlicher Prozesse in der Bauchhöhle*. Deutscher Arzt Kongr. 93.

By Zentralbl. f. d. ges. Chir. Grenzgeb.

Spiegel discusses the condition described by Reckel 1900 and by Amberg 1909 and called by them post-operative sepsis. The symptoms are fever, restlessness, lethargy and finally coma, generally ending in death. Recovery is exceptional. He has seen a great number of cases in the acute stage after operations for appendicitis, and believes with Sippel, Sierlin and others that the original explanation of the clinical picture and its anatomical basis (fatty degeneration of the heart kidney and especially the liver) is not satisfactory and that it is in reality an after-effect of chloroform. After he reached this conclusion he stopped giving chloroform in operations for all inflammations in the abdomen during that time (October 9) he has not seen a like case since from February to the end of September 9 he had seen cases three of them ending fatally. He maintains that chloroform is absolutely contraindicated in these conditions, and recommends the use of morphine-ether anesthesia as being without danger.

Bainbridge Spinal Anesthesia: Development and Present Status of the Method, with Brief Summary of Personal Experience 1903 Cases. *Med. Press & Circ.* 93, 2, 121, 122.

By Surg. Guyon & Obel.

Bainbridge notes that this method of anesthesia, like all new methods, had its early errors. Then enthusiasm over its application began to wane and the later development was left to limited number who recognized its advantages and usefulness.

The author's method of sterilizing cocaine and stimuli drugs is as follows: Five grains of fresh cocaine crystals two drams of strong ether are added and mixed thoroughly with glass rod until paste is formed and stirred until the ether is evaporated. One ounce or 15 ounces of boiled filtered water or physiological salt solution is then added, making respectively 1 per cent or 15 per cent solution, and from 5 to 15 minutes of the strong solution and from 1 to 4 of the weaker solution is the dose.

Other drugs besides cocaine having become val-

uable for spinal anesthesia, three general classes of solutions have been evolved: (1) those of specific gravity lighter than the cerebrospinal fluid, the diffusible solutions in which alcohol is used to give this gravity; (2) those with specific gravity approximately equal to the spinal fluid, to which the simple solutions in water in physiological salt solution or in spinal fluid belong; and (3) the non-diffusible or heavy solutions with glucose dextrin or gum arabic.

In 988 of the 1065 cases, solutions in sterile water were used, and in over 500 of these cocaine was the drug. As a rule, Bainbridge now uses stovaine or tropacocaine but does not hesitate to use cocaine. In all his cases there is only one death (diffusible stovaine solution) and this was probably from status lymphaticus, one case of temporary partial paralysis with recovery one case of failure due to "dry spine" and cases with atypus in which there is respiratory depression, and one case of idiosyncrasy with no anesthesia after several attempts.

Preliminary preparation of the patient is not so essential except in intestinal operations. Emergency cases have been operated on with comparatively no post-operative phenomena. Morphine may be given before anesthesia, and strychnine plus nitroglycerine lessens disagreeable symptoms.

The author usually injects between the 4th and 5th or 3rd and 4th lumbar vertebrae. Ethyl chloride or cocaine subcutaneously is used, an incision is made in the skin and the needle is inserted through the dura. If the cerebrospinal fluid does not flow freely the needle is withdrawn and reinserted. The solution is injected slowly. The body of the vertebra in front should not be touched with the needle because of the presence there of large plexus of blood vessels. The position of the patient and the specific gravity of the solution must be taken into consideration according to whether high or low anesthesia is desired. The author believes that head and neck operations should not be undertaken under spinal anesthesia unless other methods are contraindicated or operation essential.

The indications for spinal anesthesia are the contraindications for inhalation anesthesia. The objections to spinal anesthesia are: (1) The operator is absolutely committed to the dose given. It may be increased but not decreased. (2) Prolonged operation, the anesthetic effect may pass before operation is completed. R. H. BROWN.

SURGERY OF THE HEAD AND NECK

HEAD

Basham Temporomaxillary Ankylosis. *Journal of the A. M. A.* 93, 2, 11, 12.

By Surg. Guyon & Obel.

The paper is limited to short discussion of those cases of ankylosis of the temporomaxillary joint due to change in the articulating surfaces of the

temporomaxillary joint itself. Those due to cicatricial contraction of muscles are not considered. Ankylosis of this joint is nearly always due to an infectious arthritis. Basham mentions arthritis as an occasional cause. Otitis media, parotiditis and osteitis affecting the body of the maxilla may cause infection of the temporo-

maxillary joint. According to Duploy and Reclus gonorrhea is a frequent cause of rthritis in this joint. Before the present days of surgery many and varied barbarous instruments were contrived to force apart the jaws. The author gives a brief résumé of the different types of operations devised to bring back motion in these cases. Most of these usually caused damage to the facial nerve. The operation of Lillenthal is the safest and is the one the author used in his case reported.

The author reports a case of a school girl who in the autumn of 1900 had had typhoid of a severe type. She was left with ankylosed jaw and mastication was impossible. On September 9, 1901, Basham operated on her right side first. A hook was used to open the joint and a curette was used to clear away the adventitious bony tissue, operating mostly at the expense of the maxillary condyle. Adhesions about the joint were well broken up. A piece of temporal fascia was divided so as to leave the attachment to the inner border of the root of the zygoma undisturbed and it was passed across the articulation between the glenoid fossa and the condyle and stitched with fine catgut. The section of the zygoma was replaced and the wound closed. Eleven days later the same operation was done on the other side. The jaws could now be separated widely with little difficulty. Within two or three days the patient could drink water from a glass and from this time on movement of the jaws was encouraged. A hard rubber interdental wedge was provided to wear between the teeth for a few hours daily. The patient still remains well.

M. S. HEDGECOCK.

Frehlig. A Preliminary Report on the Temporal Bone and Its Anomalies: a Birth in One Hundred and Fifty Cases. Bull. Laryng. Rhin. 9, 3, 14, 3. By Surg. Gynec. & Obst.

Frehlig made extensive anatomical studies of the temporal bones of one hundred and fifty cases. He gives exact measurements of the different anatomical parts with few references to their importance from the standpoint of the surgeon. He states that there is neither an eminentia articularis in the temporal bone of the new-born nor a distinct mastoid process. The lowest external portion of the temporal bone is the inferior border of the annulus tympanicus. It is important to know that the tegmen antri is very thin and since the antrum mostly goes over the tympanum, the tegmen tympani is also very thin. The bony external auditory meatus and the bony canal are entirely missing, so that with the soft parts removed one comes directly upon the drum membrane. The horizontal canal protrudes into both antrum and tympanum and is therefore easily injured during an operation if one is not fully acquainted with these anatomical details. Both the tympanum and the semicircular canals appear to be about as large as in the adult. The description of the course and the measurements of the distances from different anatomical points

show that there are great variations in the exit from the mastoid bone.

The statement given in the textbooks of anatomy that the mastoid bone or the equivalent in new-born children does not contain cells is corrected by Frehlig, who found comparatively large cells in considerable percentage of cases. ENIL SCHWALL.

Barrett. Diffuse Glioma of the Pia Mater. Ann. Surg. 91, 141, 643. By Surg., Gynec. & Obst.

The author describes the brain of a man 4 years old who had shown grave mental symptoms during the last four months of life. The tumor was a large glioma growing in the subependymal substance in the right occipito-temporal region. It invaded the adjacent pia mater and also the pia of the greater part of the brain, cerebellum, cranial nerves, pons, medulla, and at least the upper part of the spinal cord. The tumor had pushed in among the fibers of the pia mater in places and lay in the subarachnoid space. From the spaces of the pia, glioma cells had invaded the lymph spaces of the adventitia of the blood vessels and extended deeply into the substance of the brain. In places these had broken through the vessel walls and formed focal metastases in the perivascular area.

The author calls attention to the infrequency of glioma tumors which invade the leptomeninges of the central nervous system so diffusely.

In this case dissemination occurred very largely through the lymph spaces of the blood vessels. There was also direct invasion of the brain substance from the infiltration of the pia. The tumor was an exception to the statement of Bruns that gliomata are solitary tumors which do not form metastases. BARNEY BROOKS.

Hudson. Consecutive Displacement of the Cerebral Hemisphere in the Localization and Removal of Intracerebral Tumors and Hemorrhages. Ann. Surg. Phila. 9, 3, 141, 491. By Surg. Gynec. & Obst.

The author has based the development of his technique upon a principle discovered and developed by him from a case of subcortical brain tumor terminating fatally within forty-eight hours after it had been operated upon. Decompression had been done at the first operation for a tumor involving the motor cortex and from which the symptoms were in no way distressing. Intracranial pressure, however, was found to be great. No tumor could be located by most careful palpation and the brain was not incised to search for it, as that should be left, as a rule, until the second operation. The patient died within forty-eight hours and at post mortem conditions, especially were noted first the cerebral hemispheres had been greatly damaged by being forced into the operative opening, second the tumor located about three quarters of an inch below the cortex became palpable with the finger tips when tension had been released by moving the brain from the skull.

The author maintains that surgery of the cerebellum has been transformed from an unpromising to a promising field by using the principle of releasing pressure in the entire cerebellar fossa.

One successful operation for intracerebral hemorrhage is reported and the statement is made that by the use of the box principle and an improved instrument, instrumental in many successful operations for intracerebral hemorrhage may be done.

A very large part of the success of these brain operations depends upon rapid and perfected technique. The article is concluded by a close description of the author's own methods and also of the instruments many of which are entirely new.

FLOYD RILEY

Dennis Bilateral Cerebral Abscess Involving the Motor Areas. St Paul, Minn. J. G. N. 1913, 43.

By Surg. Gynec. & Obst.

The case reported is that of a young man of eighteen, first seen while suffering from a localized left-sided proptosis, thorax communicating with the brain. Nineteen days after drainage of this condition the patient had a attack of aphasia, followed the next few days by others to which were added general convulsions and total right hemiplegia. Twenty-eight days after the drainage operation general convulsions were followed by bilateral hemiplegia which cleared up on the left side.

A left osteoplastic flap was raised some days later and an incision beneath the ascending frontal convolution drained. The following day he could move both legs and the right hand. Death ensued three days and autopsy revealed another abscess in the corresponding motor region of the right side as well as one in the silent area in the left frontal lobe. The contents of the drained incision was obliterated and there was no meningitis. The presence of second abscess on the right side had been considered probable but operation was not done because of the bad condition of the patient and because of the contrary opinion that the left sided paralysis was due to extension and the basal.

The following points may be emphasized:

(1) Cerebral abscess is very frequently second to thoracic focus.

(2) About one-half the abscesses involving the Krause the lesions solitary.

(3) The point of lodgment is usually along the course of the artery of the suture of Sylvius.

(4) It is striking and unexpected that emboli originating in the lung tend to lodge in the brain, while those from the cavity of the heart do not.

Paralysis resulting from the causes under consideration may disappear and recur at least one or three times, due undoubtedly to the effect of edema and pressure preceding abscess destruction. Every definitely localized brain abscess should be drained. The diagnosis of second abscess must be considerably less certain than that of the first. In some instances even involving the motor area, the determination of side of the lesion is impossible as evi-

denced by two cases reported and studied by autopsy in which the lesion was on the same side as the hemiplegia. An explanation for this unusual condition has been advanced.

Rodman Report of Cases Illustrating Certain Phases of Cerebro-Spinal Surgery. Penn. M. J. 9, 1, 1913, 432.

By Surg. Gynec. & Obst.

The conclusions as to preparation for technique of and indications for operations on the brain and cord are based upon 15 cases in the author's experience only of which are reported in detail.

In the preparation of neurological cases for operation, uterine tamponade has been given as a routine measure, and avoidance of all infection is attributed to this. Overpurification and morphine are undesirable.

The most important factor in the prevention of shock is hemostasis, and with this in view tourniquet is employed. Hand-driven instruments are thought to be safer than electrically driven osteotomes, although they are slower. Equant blood pressure readings are taken during the operation, and a sudden fall is indicative of approaching collapse. Should collapse intervene or an extensive operation be necessary a two-step procedure is considered desirable.

One case of enormous extradural hemorrhage with hemiplegia whose occurrence is considered rare by Cushing, was followed by complete recovery after evacuation of the clot. In this instance an osteoplastic flap proved so satisfactory that the author believes it should always be used in exposing clots from the middle meningeal artery. Another case of inoperable tumor was almost completely relieved by subtemporal decompression, both operations, although only palliative, has definite indications, undoubted value and low mortality but should only be part of an exploration wherever possible. All cases, however in which this operation was done were not so fortunate but the improvement following exploration has been so great that such operations seem to offer the greatest chance of temporary comfort to the patient. Suboccipital decompression should not be done unless there be strong evidence of subtentorial lesion, because of its difficulty and greater mortality.

Surgery of the cord offers the same difficulties as that of the brain. The approach is best done by simple laminectomy. From Allen's recent work, decompression of the cord seems feasible. The author holds the removal of extradural and intramedullary tumors offers no difficulties.

E. K. ANDERSON

Swett and Allen The Effect of the Removal of the Hypophysis in the Dog. J. Surg. Med. 9, 3, 1913, 435.

By Surg. Gynec. & Obst.

The authors discuss the result of a series of experiments carried on by them during the past year which have thrown light on the essential character of the hypophysis. In twenty-two dogs, seventeen died at periods of from ten to thirty-three days from

intercurrent disease or accident. Five dogs lived for months and showed no clinical symptoms peculiar to the operation such as tremor or disturbance of gait.

The method of approach as through an incision two inches in length perpendicularly over the zygoma. The zygomatic arch was removed the coronoid process of the mandible resected and the base of the skull approached on a direct line. The skull was trephined and the opening enlarged the dura opened and the brain elevated by special retractor. The hypophysis was removed by special loop forceps, which enabled the operator to remove the gland in two pieces, one for the anterior and one for the posterior lobe. No drainage was used. The Paulsen-Cushing incident is rejected because of the extensive removal of bone which exposed the brain to the action of the masseter muscles. An atypical course of a branch of the pterygo-palatine artery caused several failures due to hemorrhage.

They consider that the anatomical removal of the dog precludes complete histological removal of all the cells of the pars intermedia. They think that physiological removal enough to produce characteristic changes, can be done, analogous to the removal of the pancreas, thyroid and parathyroids. Serial sections of blocks of tissue removed post mortem, from optic chiasm to corpora mammillaria inclusive, demonstrated that only two dogs showed no remaining evidence of pars intermedia anterior. The first change noted was striking red coloration of the pancreas, which had the appearance of the gland at the height of digestion, but no microscopical changes were noted. Second, in point of time as trophy of the genital apparatus especially the testicles. Two dogs in which one testicle was removed at the time of operation showed marked atrophy of the remaining organ, due to complete loss of spermatogenic cells. One dog which lived thirteen days showed no clusters of spermatozoa in Sertoli cells, nor free in lumen. Spermatozoa of first and second order were present in moderate quantity. The epididymis was crowded with spermatozoa. Thirdly increase in weight, this comes late and it is questioned whether it is due to the removal of the gland directly or to loss of some function controlled by the hypophysis. In three dogs autopsied after several months the thyroid presented a decrease in colloid and flattening of the cells of the alveoli.

They conclude that the hypophysis is not essential to life and that the three changes above noted undoubtedly follow its removal. Changes in pancreatic digestion were not studied. They are unable to say whether glandular rests or parts of the gland left behind can compensate for this atrophy of testicles. They agree with Aschner except in two particulars that removal of the gland from adult animals is not without effect, and that atrophy of the testicles is due to removal of the tuber cinereum. The latter they consider purely an academic one. Their results cause them to believe

that the hypophysis is not essential to life. The essential or non-essential nature of the gland is an important surgical problem that the only indication for removal is intra-cranial pressure. They think that the intra-cranial method of approach is preferable to any other that Frazer's operation is the best anatomically and technically.

DONALD GORDON

Meyer. New Formation of Nervous Cells in an Isolated Part of Nervous Portion of Hypophysis. Tumor in Case of Acromegaly with Diabetes, with a Discussion of Hypophyseal Tumors Found so Far. *Am J Surg* 9: 5, 1914, 653. By Surg. Gynec. & Obst.

The paper is based on clinical and post-mortem study of a single case. The patient was a man of 52 years who had had six years typical acromegaly associated with paraneuritic condition. During the last year he had also known to have had persistent glycosuria.

At autopsy the only lesion of importance was tumor of the hypophysis. The structure and mode of propagation of the tumor is described by means of text and figures. At one point some of the nervous portion of the hypophysis had been in the process of invasion, disintegration completely isolated so as to form an independent island of nervous portion on the glandular tumor. This island there as striking monstrosity of both glandular cells and cells of the nervous portion.

The glandular elements are larger and have greatly increased number of nuclei. There was also unquestioned new formed nerve cells with distinct Nissl bodies.

The author briefly reviews the descriptions in the literature of tumors of the hypophysis associated with acromegaly and its attention to the fact that even though the nomenclature differs very markedly the descriptions show some uniformity. The failure of more uniformity in descriptions the author suggests explanation in the first of his conclusions, which are as follows:

The changes in the hypophysis in acromegaly seem to be more constant than descriptive terms in the literature could suggest. The difference of opinion may be due in part to a limitation of the examination to only a few portions of the tumor.

The change in this case is identical with that described by Harlow Brooks. It also also the mode of propagation of the tumor.

3. In a sequestered part of the nervous portion unmistakable new formation of nerve cells with Nissl bodies has occurred besides thermoneurostics. B. H. B. 1914.

NECK

Sinjuashin. Tumors of the Carotid Gland (Über Geschwulste der glandula carotica). *Med. Rundschau St. Petersburg* 9: 2, 1913, 34.

By Zentralbl. f. d. ges. Chir. u. L. Grenzgeb.

Sinjuashin gives a short account of the histogenesis of the tumors which according to Paltauf and

Marchand, rise t the bil reaction of the common carotid artery from the carotid gland. According to the investigations of the zoologist Kashtchenko, the carotid gland develops from the adventitia t the internal carotid and appears in the embryo as a simple thickening of the adventitia, consisting of loose connective tissue with cell nests. The involar form of the organ develops later. Histologically the gland consists of capsule from which firm connective tissue septa penetrate int its substance. The spaces between the septa are filled with epithelioid cells with large nuclei and distinct chromatin structure, lying close t one another so that there is direct transition from these so-called specific cells to the endothelium t the very numerous vessels. Of the twenty-five cases published since

By the thor has operated successfully only two. Fifteen cases were i women, nine in men seventeen times the tumor was on the left side, seven times on the right. The patients were bet een twenty-five and thirty years f age. The tumors were in the superior carotid triangle and were as large as goose-egg, tolerably hard, nodular movable laterally but not up and do n and showed pulsatio which ceased on pressure ver th carotid.

The operatio is not without danger as th tumors are often firmly attached t the carotid or the vagus and frequently demand resection of the nerve t artery (in so of 5 cases). The tumors must be extirpated for K. Wismann and Dobrowy also have observed malignant degeneration ad recurrence. The tumors can hardly be removed without at least temporary ligation of the carotid because of the severe hemorrhage. Five good colored microphotographs and a bibliography close the article.

Von Retzius

Smaller Ligation of th Common Carotid (Zur Unterbindung der Carotis communis) *Beitr. Klin. Chir.* 9, 3, 1900, 494.

By Zentralbl. f. d. ges. Chir. u. L. Grossgeb.

Ligation of the carotid communis has been known since the close f the 8th century. Hemiplegia and convulsions occupy the central position of interest in connection with this procedure. According t Hartmann, these phenomena are not due to infection, nor have changes in the suture material brought about any improvement. Anemia, and not embolism seems to be the main cause of the softening. In 878, Denue first attained cure without cerebral effects by slow and gradual ligation. The method suggested by Cœl and Boerl, i. e. an accompanying ligation of the ven. jugularis int. did not void serious disturbances in the mot. and sensory functions. The most practicable method of avoiding sudden anemia is the gradual interruption of the blood stream. The technique for this procedure was worked t by Jordan in 1907 who has designated it as loose and temporary ligation of the carotid occupying some forty-eight hours, accompanied by local anesthesia, which is required for the recognition of cerebral effects.

The following are absolute indications: Hemorhages which may be fatal, relatively definite cerebral diseases, such as epilepsy marked by increased brain pressure, neuralgia, hydrocephalus, and inoperable tumors. A review of ten cases proves the superiority of slow constriction (Drosselung) over direct and rapid ligation. T cases which were not slowly ligated died of serious cerebral maladies, while the cases which were slowly ligated remained free.

Slow ligation was accomplished with rubber drains whose ends, outside of the wound, were gradually turned out. However, slow ligation with rubber tubing is not practicable because of the uncertainty attaching t the degree of t lating.

Ligation f the externa before resection of the upper jaw which has been recommended, was found in one case t be insufficient.

Strumacher.

Ragen-Torn The Infl ence of Insufficiency and Atrophy of the Thyroid Gland on Diseases of the Joints (Über den Einfluss der Jodmangel und Atrophie der Schilddrüse auf Erkrankungen der Gelenke). *Chir. Arch. Vorträge*, 9, 3, 1900, 55.

By Zentralbl. f. d. ges. Chir. u. L. Grossgeb.

The author discusses diseases of the joints which occur in connection ith atrophy of the thyroid gland. From study of ten cases he concludes that in the physical examination of every rheumatic patient, attention should be given t the thyroid gland, especially in those cases where the gland is not enlarged. Careful observation should be made for the detection of subjective or objective symptoms of hypo- and hyperthyroidism. Cases of thyroid atrophy are frequently associated with joint disease. Administration of thyroid preparations improves the general condition and brings about disappearance of the symptoms of hyperthyroidism. At the same time the pathological processes in the joints subside, even in cases with marked anatomical changes.

Complete recovery is possible as soon as normal thyroid function has been restored. The treatment must extend over considerable period, as premature cessation of treatment leads t recurrences of the joint symptoms. In obstinate cases, such as chronic articular rheumatism and arthritic deformans in which there is only temporary improvement under thyroïdin administration, transplantation of thyroid tissue is indicated after the method of Christiani.

Hinze

Kutschera Against the Water Etiology of Gout and Cretinism (Gegen die Wassereitologie der Gicht und des Kretinismus). *Ästhet. und Wundchir.* 9, 2, 1901.

By Zentralbl. f. d. ges. Chir. u. L. Grossgeb.

On the basis of long years of study in the Steiermark and the Tyrol, the author opposes the old nd seemingly well established idea that water plays part in the etiology of gout and cretinism. He has widened the usual conception of cretinism to include all those bodily and mental developmental

disturbances occurring in the endemic regions and produced by the cretinogenic injury regarding all of these as evidences of cretinous degeneration. These pictures vary from the normal to the severest conditions of hypothyroidism and deal mainly with goiter. Goiter belongs to it and there is no cretinism outside the goiter districts. The most constant injury produced is common by the endemic goiter is not the goiter but injury to the nervous system. The agent has a strumous action, when it affects an adult, more resistant body and cretinism in a child in its earliest years.

The author assumes, on the basis of his experience, that the water theory of goiter is not tenable because (1) the impression that goiter and cretinism is bound to certain districts has been shown to be erroneous; it was thought that the disease was so exquisitely chronic that its variations were developed only in decades and centuries; (2) goiter and cretinism are not evenly distributed among the inhabitants of the endemic districts, as would be demanded by the water theory, and the disease is not confined to the community but to certain houses or dwellings, i.e., it is house disease like beriberi. Hence cretinism is pronounced family affliction. It is not, however, hereditary as the children of cretinous mothers may develop normally provided they are

removed to a neighboring house free from goiter and cretinism. These and many other observations speak in favor of the view that the disease is transmitted by contact.

The author regards the results of his investigations on the formerly cretinous Tostenhuben at Vadana, his investigations in Tyrol and the experiences of other observers as convincing. The more exact investigations of goiter sources have shown that goiter endemics, especially the acute ones, were never related to the water supply but to the community of dwellings (Examples noted by the author: young dogs supposed to be affected by goitrous servant girl and the well known endemics in fish ponds.) The positive animal experiments may be explained easily by supposing that the animals in the endemic regions were infected by contact. A parallel to the author's view as to the etiology of goiter and cretinism is found in the Chagas disease which is produced by the bite of an insect, which transmits a variety of trypanosome. From all his observations and reflections, the author is convinced that goiter and cretinism is a disease confined to the community of dwellings and transmitted by contact, possibly through some intermediary host, and it is not confined to the drinking water supply.

LOEBENOFFER

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Thomas: A Study of Empyema, with Special Reference to the Feasibility and Importance of Dependent Drainage. *Am. J. M. Sc.* 94, July 1915.

By Sarg., Gynec. & Obst.

Thomas reports in detail nine cases of empyema. From a study of these cases and a formalin hardened cadaver specimen of an empyema undisturbed by an opening during life, he draws a few inferences which are at variance with the generally accepted view. We have not appreciated the extent and nature of adhesion formation developing in connection with empyemas, especially the acute variety. The massive parietal type extends usually to the bottom of the normal pleural cavity and is not unencysted or general, but completely walled off above from the rest of the pleural cavity by adhesions. This explains the slight mobility of the dullness on percussion, as well as the fact that the upper level of the dullness is not in a straight line as it should be if the fluid was unencysted and free to seek its own level. Skoda's resonance may not be due to relaxation of the lung above the pus, but to the fact that the functioning portion of the lung is doing compensatory work.

Adhesions between the lung and chest wall will not offer serious obstacle to re-expansion of the lung because they develop between parts normally in contact. That double empyema can be safely

opened on both sides with same operation must be explained by the fact that the air admitted does not produce a total double pneumothorax, since it enters on each side only the firmly walled-off empyema cavity. Total collapse of the lung is prevented by the firm adhesions which protected the lung against the pus pressure before drainage. There is no sudden or dangerous change of pressure in the thoracic organs from the usual sudden evacuation of pus, but general substitution of pus by air which has a pressure of fifteen pounds to the square inch.

The so-called encysted or localized empyemas are small probably because they develop in the fissures of the lung or between the lung and diaphragm, and therefore because of the difficulty with which the pus is diffused in these situations.

The most important factor in preventing the obliteration of the empyemic cavity and closure of the sinus is the pressure of the air admitted through the drainage opening into the empyemic portion of the pleural cavity. Here it neutralizes the expanding effect of the air coming through the trachea. Murphy overcomes this completely by aspirating the pus and injecting formalin-glycerin solution. The drainage methods still prevail. The ideal drainage method is that based upon the suction or siphon principle. The chief objection is that devices for applying it generally leak air around the tube. It is not yet determined how rapidly an empyemic cavity as a mass may be permitted to close.

The size of the drainage opening has an important bearing upon the later expansion of the lung. The lung probably can not expand until the entrance of air through the drainage opening is so diminished by contraction of the opening and blockage of the space in and around the tube by the escape of pus, that with absorption of the air already in the cavity there is developed a negative tension external to the lung to permit the normal internal pressure coming through the trachea to become greater than the external pressure. For this reason cannot safely employ in empyema the large drainage opening as in ordinary abscesses. The effect of the large opening in empyema is also after the first water operation by the permanent non-expansion of considerable portion of the affected lung. An opening through the seventh rib or terrace of given size will drain more perfectly than one at the usual level, and will better prevent the entrance of air since the pus will be constantly escaping and tending to fill the space in and around the tube. There will be little danger of the drainage tube falling into the empyemic cavity since it must travel against gravity to do so. Had it thus accident happens the tube could probably be reached with forceps. In some cases the thick-thickened pleura is the result probably of organization of layers of fibrin deposited in the acute stage.

Of 6 massive empyemas treated with dependent drainage it may be said that the time necessary for a cure was less than the average determined by Behndler (14½ weeks) or the average in Fealey's cases (90 days) and therefore there were no persistent lesions. In the nine cases there were no deaths. This method deserves further trial and study. L. G. DW.

Lawrow The Surgical Treatment of Pleural Empyema with Especial Reference to After-Treatment by Aspiration. (Die chirurgische Behandlung des Pleuraempyems unter besondern Berücksichtigung der Nachbehandlung mit Aspiration). *Berlin Klin. Wochenschr.* 9, p. 1033, 1912.
By Zentralbl. f. d. ges. Chir. u. Gynäkol.

Aspiration after laparotomy with resection of the ribs corresponds to the physiological healing by lung expansion. In three cases, the author used the apparatus which as demonstrated by Nordmann in 1907 at the 56th Congress of the Deutsche Gesellschaft für Chirurgie and description of which he gives. The author mentions slight modification of his apparatus, which consist in the attachment of a 4 cm. wide strip of rubber to that surface of the rubber plate which is turned toward the patient in such a way that it may be inflated. This avoids pressure and decubitus from the glass receiver. The apparatus is attached by means of gum arabic. If there is no pneumatic ring present, attachment should be made only to this. The drains which are introduced into the wound should be fastened to the edge of the rubber plate. After connecting the rubber aspirator

negative pressure is begun. The apparatus may be allowed to remain for ten or twelve days, during which time the patient may leave his bed. According to the amount of secretion bandages should be changed anywhere from daily to every fourth day. The defects of this apparatus are pressure by the receiver, the direct attachment of the rubber to the skin, and the facility with which the projection may be broken off from the receiver.

At first only slight negative pressure 5-6 mm. Hg. should be employed, and this should be gradually increased to a maximum of 20-30 mm. Hg. With fresh empyema maximum of 50-80 mm. Hg. should not be needed. No pain should be produced. Medium negative pressure has apparently no influence on the heart action respiration however small becomes deeper and the capacity of the lung seems to be decidedly greater than under normal atmospheric pressure. HOFFMANN.

Majewski Surgical Treatment of Pulmonary Empyema. (Leichte chirurgische Behandlung). *Pract. chir. woch.* 9, p. 10, 1912.
By Zentralbl. f. d. ges. Chir. u. Gynäkol.

After detailed discussion of the methods for preliminary examination of the lungs and thorax, the author reviews the clinical histories of six cases. The conclusions are as follow: It is doubtful whether the changes in the costal cartilages in patient with fixed enlarged emphysematous chest are primary. It is more likely that they are secondary phenomena, and dependent on changes in the lungs themselves.

The indications for Freund's operation must be made to include suitable cases of primary emphysema. The operation must include the resection of the 5th ribs and be bilateral, being done by the 2-step method as otherwise a relapse may occur and unilateral extra-pleural emphysema with pressure symptoms take place. The operation is to stimulate the breathing if false joint therefore 1-4 cm. of the cartilage must be removed and the muscle flaps transplanted between the ends. In most cases, the results are satisfactory. Besides the gratifying subjective improvement objective improvement can be obtained by respiratory exercises for which the higher altitudes are favorable. WERKHEIM.

HEART AND VASCULAR SYSTEM

DeJorville Two Cases of Penetrating Wound of the Heart Treated by Operation. *Ann. N. Y. Acad. Med.* 9, p. 4, 1914.
By Surg., Gynec. & Obst.

The author reports two cases of penetrating wound of the heart observed and operated on by him within three months. The first case was a negro boy aged 4 who was accidentally stabbed with an ice-pick. It was operated on within three hours after the accident. A penetrating wound of the left ventricle was found. The wound was closed with five interrupted silk sutures after the first suture had introduced had cut loose, due to being tied

too tightly. It had a somewhat stormy convalescence in which, on the eleventh day after hearty meal, he evidently had emboli in the right radial and renal arteries, noted clinically by the absence of the pulse and numbness of the right hand. The urine was markedly albuminous but no red corpuscles were present. Recovery was practically complete.

The second case was a colored boy aged 15. He was operated on five days after injury. The muscle of the heart was so flabby that it was impossible to draw the heart far enough out of the chest cavity to locate the wound. The patient died before the operation was completed. At post mortem, punctured horizontal valvular wound of the right ventricle one half inch long and about half way between the apex and the base of the heart was found penetrating into the ventricular cavity.

The author concludes as follows:

A great many cases of penetrating wounds of the heart might easily escape recognition if too much reliance is placed on the failure of the probe to enter the thoracic cavity but when it is borne in mind that a stab wound in that position usually has to traverse several layers of muscles, the fibers of which run in various directions, it can easily be conceived how difficult it would be to detect the opening into the chest by means of a probe. All such wounds which give rise to symptoms of shock and collapse (even in the absence of other signs) should be immediately enlarged and the thoracic walls sufficiently exposed for thorough examination. A wound of this kind, if found, would necessitate an immediate operation.

In one hundred and twenty-four cases of suture of the heart after injury the proportion of recoveries is 40 per cent. there seems little doubt that the proper treatment for all such cases rests with the surgeon and not with the physician.

3. Focused or chromic catgut may be used with safety but the author prefers thin silk applied not too tightly.

4. Complete exposure of the pericardium and heart can easily be obtained by removing the fourth and fifth costal cartilages, thus leaving the fourth rib in position as support to the heart when the patient is in the erect position.

5. There are two distinct advantages in opening the pleural cavity: first, owing to the collapse of the lung in the upper part of the thorax, the pericardium and heart are more completely exposed and the operation thereby much facilitated; secondly, it permits of thorough examination and cleansing of the pleural cavity from all blood clots, which we can never exclude with certainty, the pleura being in most cases wounded at the same time as the pericardium.

6. In addition to the usual treatment for hemorrhage we bag kept over the heart continuously and hypodermics of morphine are extremely useful adjuncts for allaying the distress and pain. Complete rest in bed for at least three weeks after the injury must be enforced for fear of embolism.

The ordinary straight forward incision gives

ample room, which can be further increased if necessary by making transverse incisions at right angles to it.

M. S. HEADRICK

PHARYNX AND OESOPHAGUS

Morison. Congenital Stricture of Lower End of the Oesophagus: Case Treated by Gastrostomy Followed by Dilatation of the Stricture Through the Oesophagoscope. *Lancet*, Lond., 9.3.1904. By Surg. Gynec. & Obst.

The article describes the case of a boy aged 3 years, first seen in August 1911. Since he was three months old there had been difficulty in swallowing. During the last three months he had become much worse, vomiting almost immediately after everything he took. His weight was 20 lbs. An X-ray photograph (with bismuth porridge) showed stricture of the oesophagus at the upper border of the tenth dorsal vertebra. On September and gastrostomy was done by Morison; the stomach was not atrophied and a No. 1 English catheter was inserted through the pylorus into the duodenum.

October 7th an effective attempt was made to pass a ureter catheter through the stricture from below by means of a cystoscope through the gastrostomy opening. Attempts at bougie treatment under an anæsthetic and the allowing of thread from above failed. The child steadily and rapidly improved, and on October 3, 1912, returned home weighing 20 pounds. On November 9, 1912, he was readmitted for further treatment of the stricture. The gastrostomy opening was still his sole resource for feeding, as he vomited everything he took by the mouth as before. On November 4, 1912, under chloroform anæsthesia the oesophagoscope was passed and a stricture was seen at a distance of 36 cm. from the incisor teeth. A fine stiff whalebone bougie of the calibre of a ureter catheter was passed down through the oesophagoscope into the depression and after little resistance it entered the stomach. After this, in the same way, a No. 6 graduated gum elastic bougie was passed into the stomach and then No. 8 and it was left in situ for four hours. From this date the child swallowed liquids well, only vomiting occasionally.

On January 7, 1913, the oesophagoscope was again introduced and the strictured portion appeared to be large enough to admit the tip of a little finger. The report of January 10th stated that he was then able to eat solid food and never vomited. He had had nothing by the gastrostomy wound for a month. During March the child continued to improve and the mother was able to pass a No. 6 bougie without trouble.

DOUGLAS C. BALFOUR.

Besinger. Early Diagnosis of Cancer of the Oesophagus: A New Technique of X-Ray Examination. *J. Am. M. Ass.* 9.3.1913.

By Surg., Gynec. & Obst.

The principle of this method is to plug the lower end of the oesophagus so that a bismuth mixture is

retained long enough for a picture to be taken. The water apparatus is as follows: The one end of four foot length of 4 mm. rubber tubing is attached to a rubber bag covered with silk and having a brass tip at its lower end. It is eight feet long. At the upper end of the tube is a cock. A surgical syringe of 200 cc. capacity containing water is used to distend this bag, which is then of uniform shape and about 10 cm. in circumference. The tube is passed like the stomach tube until the bag is just inside the stomach when it is filled with water by means of the syringe, the cock is closed and it is pulled up so that the bag is tightly drawn into the cardiac orifice of the stomach. The patient then exhales completely raising the dome of the diaphragm to high level, and the tube is held tightly in this position and fastened about the forehead or around the neck of the patient. A siphon of from one half to one pound may be employed to hold the bag tightly against the cardia. A string inside the tube guards against breaking but still permits the first 4 cm. of strictures to be cut out for the extrusion of the diaphragm. Then the mouth of the bismuth, soda and water is inserted into the gullet through catheter until the mist reappears in the mouth.

With the patient under x-ray radiographs are taken in the lateral dorsal position with the left side of the body to the plate. After the plates are taken the tube is released and the bismuth flows into the stomach. The cock is then opened, and the water flows out of the bag. Plates of the stomach may then be made. When stenosis is present it is not practicable and necessary for diagnosis. W. H. B. 120

Von F. K. Plastic Repair of the Esophagus (Über plastischen Ersatz der Speiseröhre). Zentralbl. f. Chir. 9, 3, 1, 545.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The author used the body of the stomach, the pylorus and the horizontal segment of the duodenum to replace the esophagus of a female patient, forty-seven years old suffering from carcinoma of the gullet. The procedure was as follows: A median incision was made from the umbilicus to the xyphoid cartilage. The stomach is liberated on its greater and lesser curvature by sectional ligation of the lesser and gastro-colic omentum from the edge of the carcinoma to the vertical part of the duodenum. The duodenum is severed at the junction of the horizontal and the vertical branch; the latter is closed. The ninth rib is resected between the parasternal and mammary line and the parietal peritoneum was opened. The stomach was then brought through this opening and drawn posterior to the thoracic wall, simultaneously the cardiac end of the stomach as fixed to peritoneum at the resection point. A posterior gastro-enterostomy was then performed. A thoracic skin incision was made and sutured to the free opening in the duodenum.

In the second stage of the operation, the esophagus is resected to the lower portion of the neck and the upper end fastened to the upper end of the antithoracic skin incision. This latter part of the operation could not be carried out as the patient died of perforation of the carcinoma. The author believes that his method can be tried out well and offers great advantages. J. 2222.

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Grant. Lignous Phlegmon of the Abdominal Wall. J. Am. Med. Ass. 3, 15, 30.
By Surg. Gynec. & Obst.

Grant says it is probable that this disease has been observed under some name or form more frequently than has been reported. It is not known that lignous phlegmon though observed most frequently in the neck may occur in any part of the body. During the last six years substantial additions have been made to the literature of the subject in case reports and contributions.

The only pathognomonic sign is extreme hardness, diffuse or nodular. The skin is not early involved, pain, tenderness, and fever are usually slight. The diagnosis is extremely difficult even when such condition is suspected. The greatest difficulty is differentiation from malignancy. Leukocytosis favors phlegmon. Slow absorption or suppuration may take place. Histologically, inflammatory new growth with polymorphous and plasma cells is seen. Bacteriologically small Gram negative cocci

(staphylococci) are found though Davis says many varieties of bacteria have been reported. Klebsiella, paratyphoid, streptococci, bacillus proteus, staphylococci late and yellow—of attenuated virulence.

Grant reports 1 case, both of the abdominal wall. He concludes that the disease occurs generally by direct middle of the body with impaired resistance. The immediate exciting cause is also infective process with or without trauma. It is slow degenerative inflammation affecting connective tissue, fascia and muscles, and finally the skin. The usually slow development, interrupted and protracted course and final resolution are characteristic. The duration is indefinite but is usually from several months to a year or more years. L. G. D.

Floerke. Operative Treatment of Tuberculosis of the Peritoneum (Operative Behandlung der Bauchfell-tuberculose). Zentralbl. f. Chir. 9, 3, 1, 446.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The author reports forty-one cases of tuberculosis of the peritoneum which were treated surgically.

during the years 806-19 at the Mäsekrankenhaus of Hamburg. In each case simple laparotomy was performed, using an incision from umbilicus to symphysis, and draining if ascites is present. No further procedure was carried out in the abdominal cavity. In almost every case the wound was promptly closed, 1 ne with silver wire. Sixteen of thirty-three cases operated before 19 have died of the remaining seventeen cases (which makes fifty per cent permanent cures) twelve were re-examined and had remained cured. In this series of thirty-three cases, twenty-three had ascites and ten none. The author believes that the combination of peritoneal tuberculosis and ulcerative tuberculous of the intestine fits an especially poor prognosis when treated surgically. *BRANDES.*

Background Subphrenic Abscesses (*Empyema subphrenicum*)
Clin. chir. 9 3 22.

By Zentralli, I. d. ges. Chir. u. t. Göttingen.

This comprehensive monograph gives a historical review with about 50 references. Portrayal of the anatomy of importance in the spread of inflammatory processes from the abdomen to the pleural space are the large openings, further sits in the muscle fibres, in which the pleura and peritoneum approach each other as far as the subserosa perforating lymph vessels (Küttner-Sapey) finally the bursa pleura retrocardia (Broeman, Favon) which develops in the embryo from the bursa omentalis and may be preserved as a small outpouching ventrally and to the right of the oesophagus. Exact topography of the organs and recesses bordering on the diaphragm. After consideration of the pathologic significance, the following division is made (A) *cavum superius dextrum* between the right lobe of the liver and the diaphragm 36 per cent of the becomes come from the liver bile tracts, and appendix. The falciform ligament separates this space from (B) *cavum superius sinistrum*. This falls into two parts. *Cavum medium* corresponding to the left lobe of the liver and the stomach. Twenty-six per cent perforations of the stomach and liver. *Cavum laterale*, bounded by the stomach, colon, and spleen, 8 per cent. (C) *Cavum inferius subhepaticum* bile tracts 5 per cent. (D) *Cavum posterius retrogastricum*. Pancreas 4 per cent.

Outside of these intraperitoneal suppurations (exception D) we find retroperitoneal abscesses, 21 per cent. They force their way through the cellular tissue between peritoneum and diaphragm especially at the parietocolic angle. Appendicitis, colitis, Peritonitis more frequently on the right. Coarse resection rarely. Involvement of the pleura frequently (a) as regional sympathetic inflammatory processes in 50 per cent, then as an extension of the suppuration or perforation in 5 per cent, more often in the retroperitoneal forms. Then there results free pleural empyema, an epiphrenic abscess. Lung becomes perforation into bronchus, 6 per cent. On the left correspondingly pericarditis, mediastinitis.

Detailed description of the clinical symptoms. Of importance in the Röntgen ray examination are disappearance of the recessus costodiaphragmatici. Immobility of the diaphragm high standing diaphragm, often above the dark shadow a spherical shadow of unequal density corresponding to superimposed air bubble, bounded above by the diaphragm and movable with change of position.

Consideration of the individual forms of the disease with fourteen personal case histories. Four operative routes are considered. Laparotomy with an epigastric abscess. Suture of a gastro-intestinal perforation not to be recommended. 2. Rib resection without injury to the pleura (Lundborg, Anvay Marwedel, etc.). 3. Transpleural route. 4. Lumbar incision. The thoracic material comprises three gastric, two duodenal, three hepato-biliary six appendicular abscesses. Nine cases were cured spontaneously perforation into the bladder and bronchus, each one five after transpleural operation, laparotomy lumbar incision each one. *HOTT.*

Ebler. Heratology of Inguinal Hernia (Präparat in hermatologie kyly trisekto) Cas. lek. 161 Prague, 9 3 14, No.

By Zentralli, I. d. ges. Chir. u. t. Göttingen.

The author gives the results of operations of inguinal hernia gathered in the last eight years. In spite of the most searching observations of anatomical characteristics which were made for the recognition of congenital hernial sacs, the question of differentiation between a congenital and an acquired sac is not always possible. In addition to the points given by various authors in the literature there is one which was not pointed out before namely that the congenital hernial sac rises on a level with the tunica vaginalis propria as an original continuation of it, while in the acquired hernial sac it may lie on the opposite side.

I a few of his own observations he could determine this symptom in young narrow sacs with certainty. He discusses the various forms of diverticulae and recesses of the hernial sac, which he classifies into five groups namely simple dilatation flat recesses in the hernial sac wall pouches along side the hernial sac cavity, divided and finally double sacs. In his second article he takes up chronically inflamed swellings of the abdominal wall, following operations for hernia. Cases are cited. In a man 46 years old, two years after radical operation for right-sided crural omental hernia which could not be reduced and a left-sided inguinal hernia, there was observed cloudy urine and difficulty at stool. There developed at the insertion of the right rectus muscle on the symphysis a tumor the size of an egg, hard and nodular which seemed to grow from the bladder. The scars of the operation for the hernia showed no changes. The diagnosis lay between carcinoma of the bladder or a connective tissue tumor in its vicinity possibly an inflammatory swelling. At the operation which

was undertaken it was seen, after opening the peritoneum that the tumor was made up of the omentum and the posterior surface of the crural hernial sac. It extended into the bladder as tumor with concentric tags and consisted of a chronically inflamed connective tissue new formation. It rose at the site of infected silk ligature. There was also fistulous tract into the bladder. The inability of suturing the peritoneum because of the reaction of about fourth of the bladder necessitated plastic operation with the omentum. The pressure of the tumor against the bladder and the opening of the fistula into the same explained the symptoms of the bladder. The severe pains and difficulty in defecation were probably due to the stenosis of the openings of the omentum and the unity of the fibers. The second case is remarkable because of the size of the tumor formation. I mean a 3 years old boy shortly before his admission into the hospital the groin had been operated for left sided inguinal hernia there developed, at the site of the incision, a tumor still present at now in the abdominal wall the size of loaf of bread 1 m. diameter which seemed to extend into the abdominal cavity. It was of hard consistency without a border. There was no suppuration at the time. Finally the tumor ruptured and with the coat of the tumor were out several silk ligatures. Which had been inserted during the operation. The tumor disappeared gradually.

The other cases of inflammatory tumor following formation of hernia after radical operation are listed. The third case is a radical operation in this type of tumor after extirpation of stenosis incision. Although pure differential diagnosis of the chronic inflammation new formation cannot be made from microscopic still present definite type of it appears after hernia operations so the use of it must as almost impossible grow tumor which does not seem to affect the neighboring organs the conclusion of inflammatory tumor resulting from infected ligature be drawn.

In the third paper he deals with traumatic inguinal hernia. The author describes three cases of inguinal hernia the congenital hernial sac has been made manifest through trauma.

From these observations it can be seen that traumatic hernia can result from single trauma through an accident. Judging the manner of production of the traumatic hernia the question arises is it possible for the peritoneum in the vicinity of the internal ring to become so loosened through injury or through the force of single action of the abdominal pressure that a sac can be formed in the inguinal canal? The older authors regard it as physiological impossibility because of the anatomical connection of the peritoneum. Later however considers it proven by finding of small hernial sacs up to 1 cm. length, in operations on hernia resulting from single direct or indirect trauma. They present tears of the muscles and extravasation of

blood under the serosa which plainly show that the peritoneum was loosened from its fixation.

In the majority of cases of traumatic hernia it must take for granted a definite predisposition either a preformed hernial sac or patent vaginal process through which possibility of the bulging of the peritoneum is supported.

The diagnosis of traumatic hernia cannot be definitely made without operation.

In the last article he deals with myoplasty as radical operation for inguinal hernia and gives a new method of operation. The radical operation for inguinal hernia by Bassini must be regarded as one of the first and simplest myoplastic operations, because it forms double layers of the posterior wall of the inguinal canal out of the musculature of the abdominal wall. A large inguinal hernia the method of Bassini fails because it is impossible to suture the abdominal opening sufficiently. The thickening of the muscle layer in myoplasty of inguinal hernia is seen to be very important when one remembers how the inguinal region comports itself after the muscle layer which has been fastened, begins to contract.

Hearns is of the opinion that the inguinal and crural operations are separated one on the other and are separated not by Poupert's ligament, as one takes it for granted that the contraction upward and inward of the muscle which has been stretched by this ligament will necessarily produce widening of the crural opening and thereby lead to the formation of the crural hernia. This observation is actually made after using the rectus muscle. The best method is the use of the internal oblique and the transversalis as the author has described. The muscle which is fully separated in the course of its fibers. The muscle flap is turned downward and inward and is sutured and fastened to the pubic tubercle and sutured to Poupert's ligament. The external aponeurosis is fastened over the flap as before. The object of radical operation is arrived at because the closure of the opening is made with the strong muscle which can contract and at the time of the stitching can make the opening smaller. It is in fact the ideal closure. PRZYBYLONSKI

Judd. A Single Transverse Incision for Use in Double Inguinal Herniotomies. *Old Dominion J.* 9, 3, 25, 23. By Surg. Gen. & Col.

The object in presenting this paper is to call attention to the use of the transverse incision instead of oblique incisions in cases of double inguinal hernia.

The incision is made from 3 to 4 cm. in length, or longer in fleshy patients, from a point midway between the internal and external abdominal rings of one side to a similar point on the opposite side, thus connecting the two inguinal canals. The incision passes directly through the subcutaneous fat and exposes the aponeurosis of the external oblique muscle. The fat round each external ring is dissected away for a short distance and

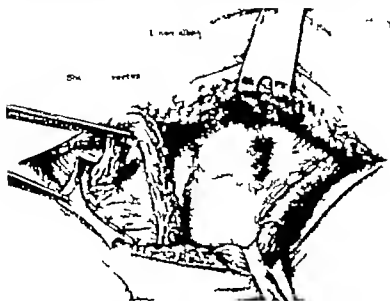


FIG. 1 (Judd.) Skin and superficial tissues reflected exposing the fascia of the external oblique and showing external rings and cord. The incision through the external oblique fascia is made one-half inch to the inner side of the inguinal canal in order to make flap for overlapping.

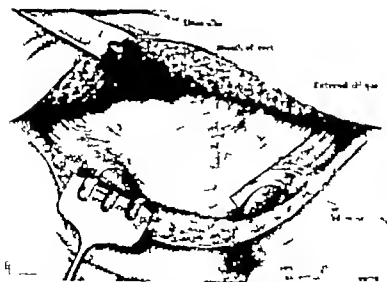


FIG. 2 (Judd.) Fascia of external oblique has been reflected. cord and sac reflected up peripartory, dissecting the sac from the cord.

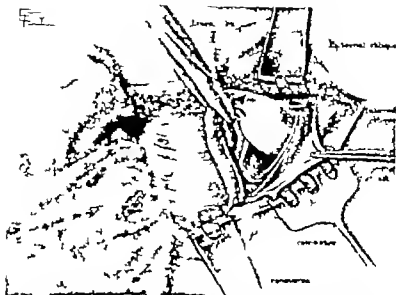


Fig. 1 (Judd) Operation complete on one side. Aponeurosis of the external oblique on inner sides of the incisions, is included in the stitches through the rectus, conjoint tendon and internal oblique and is pulled down to Poupart's ligament. Flap of fascia carried over cord lies between the two layers of external oblique fascia.

then, by properly retracting the skin and subcutaneous tissues of either end of the incision the entire inguinal canal of that side will be exposed. The hernia on this side is repaired and then the same retraction is made on the opposite side for the repair of the second hernia. After the operation on the hernia has been completed the superficial tissues are loosely sutured with catgut and the skin closed either by subcutaneous catgut suture or through-and-through horsehair suture. With this incision the exposure of either inguinal canal is fully as satisfactory as that obtained when an oblique incision is made directly over the inguinal canal on each side. The entire length of the transverse incision is often not more than that of the oblique incision, as it is ordinarily made for the repair of single inguinal hernia. The bleeding is very slight, as a rule only the small branches of the superficial epigastric vessels come into consideration. One of the principal advantages of this method is seen in those patients who have worn truss which has compressed and hardened the region or possibly has blistered and broken the skin. The injured areas, in such cases, are low and beneath the inguinal canals and are not encountered when the transverse incision is used. The location of inguinal hernia is such as to make it difficult to prepare them for operation and it sometimes happens, after operations, that the lower end of the incision, either through infection or through an accumulation of serum at this point, does not heal well. This com-

plication is more frequently seen when two oblique incisions have been used for the repair of double hernia and is probably due to a greater interference with the circulation and to more extensive traumatization of the tissues in the double hernia. The transverse incision heals well and entirely obviates this possibility. This method may be applied to any case where it is desired to expose both canals or testicles. It will be found very useful in cases of double hydrocele and, as has been described by Peterson, is a useful incision in the Alexander operation for shortening the round ligaments.

Barber: The Treatment of Large Hernia. *Lancet*, London, 1913, clxxxv 10. By Surg., Gynec. & Obst.

The author says it is not the actual size of the tumor that is the detactor, but it is the fact that these voluminous hernia are not going to be taken away but have to be returned into the cavity of the abdomen. If a very large hernia containing much omentum and other fat is returned into the peritoneum the pressure within is considerably increased and sometimes with very injurious effects. Perhaps the worst of these is interference with the movements of the diaphragm. A patient affected by the conditions just alluded to should be put to bed for some weeks on strict regimen to reduce the amount of food and fluids in the tissues, and daily attempts should be made to return and retain the hernia within the abdomen. If the mass can be reduced and cause no embarrassment to respiration, one

element of danger is eliminated. The restricted diet, and, before all, the denial of solids, may be reinforced by purgatives regularly to avoid the bowels and further reduce the volume of the abdominal contents. Acute bronchitis, marked albuminuria, much sugar in the urine contra-indicates immediate operation, except in cases of urgency. The author does not believe, apart from the conditions referred to, that any, unless it be very advanced, affects the question of operation necessarily. The possibility of extensive adhesions in large hernia has also to be carefully considered. When the omentum is adherent to the sac, the latter is removed with all the adherent omentum. This saves much time and bleeding.

The preparation of the patient has the most important bearing on the operative measures which can be adopted for these large hernia. If the protrusion can be reduced into the abdomen, every effort should be made to retain it there in order that all the viscera shall become accustomed to its presence once more and especially the diaphragm. He advises that large hernia about the groin require daily washing with the hottest water that can be borne and often astringent antiseptic lotions to a long time. Finally the night and day before operation there is no better antiseptic application than 1 per cent solution of iodine in ethylene dichloride painted freely over the field of operation. For anesthesia he seems to prefer spinal analgesia. If considers Bassini operation carried out with every attention to detail the best method when done with care. A large sac need not be dissected formally out with scissor. If there is tendency to ooze, drain should be introduced for twenty-four hours as hematomata in this region may be troublesome. The use of silver filigree is unnecessary in the large majority of cases.

DONALD C. BALFOUR

Stutzer: The Function of the Great Omentum
(Zur Frage der Funktion des grossen Netzes). *Med. Rundschau, St. Petersburg*, 9, 1914, 70.
By Zentralbl. f. d. ges. Chir. u. Gynäcol.

In accordance with Oppel's opinion that the omentum should be resected as a matter of principle because it is a refuge and breeding place for bacteria, and Hensner's opinion that it is, like the appendix, a rudimentary organ Stutzer cites Ranvier's opinion that it is to be compared to a large lymph gland. The investigations of other authors show () that animals without an omentum succumbed to peritoneal infections much more easily than those with it; by other animals with omenta (Roger) () that the intraperitoneal lethal source of infection is many times larger than the intracranial (Aucher and Chavennas). Milhan emphasizes the plastic as well as the phagocytic properties of the omentum. Broemann calls the omentum a bacteria catcher. Heger and Gübert showed radiographically the reabsorption of bismuth through the omentum. Koch obtained the same results by injecting India ink.

The author repeated these experiments by inject-

ing into the peritoneal cavity of laboratory animals suspensions of colon and anthrax bacilli. India ink and after a definite time noting the findings in the omentum. The collective experiments show that foreign bodies are taken up first by the macrophages and then by the epithelial cells of the omentum and by the macrophages which take up the macrophages. After a short time the foreign bodies are found in the lymph glands and nodes of the omentum, and intense irritation, as by pus bacilli, the omentum encloses the focus with plastic exudate. Laboratory animals without omenta react to the same stimuli with a hemorrhagic exudate and fibrous deposit. In these experiments deposits were, moreover, observed in the mediastinal glands. According to Stutzer the mediastinal glands, the lateral ligaments of the uterus, and the peritoneum are respectively the next most important factors in protecting the animal against peritoneal infection. The omentum is first.

VON REITER.

Stanton: Diverticulitis. *Boston M. & S. J.*, 9, 3, 1914, 343.
By Surg., Gynec. & Obst.

Meckel is a true congenital diverticulum, embracing all the coats of the intestine and is due to the persistence of the omphalo-mesenteric duct. The autopsy records of Johns Hopkins Hospital show one case of this in every seventy-two. It is usually attached to the ileum near the cecum and consequently in its symptoms it resembles appendicitis. Its most alarming complications are obstruction, strangulation and adhesions of the diverticulum to bowel or abdominal wall. The author's case was that of a six-year-old child and poorly developed vomiting, anorexia, and constipation the rule. New growth tuberculous peritonitis malnutrition and chronic duodenal indigestion were some of the diagnoses made by excellent men. The abdomen was distended and flat percussion a fluid wave was present. Peristalsis was visible in the upper abdomen. Tenderness was lacking. At operation was found an enormously distended stomach, duodenum and jejunum—all with hypertrophied walls. The cause was an adherent Meckel's diverticulum which was freed and removed.

Acquired diverticula are really hernia of the mucous membrane through the muscular coat and are usually found along the mesenteric border of the large intestine, mostly in the sigmoid and very rarely in the rectum. Their cause is obscure. Fleishy masses of ring or just past middle life are the usual victims. Frequently there is accompanying inflammation with mass often thought to be malignant in which hardened collection of feces is frequently found. It is important to have every sigmoid carefully examined before labeling it cancerous.

The symptoms are left-sided appendicitis with severe general pain localizing later in the left. Vomiting is uncommon but tenderness and rise of temperature soon appear and a mass develops in the

left lower quadrant. Stone in the kidney and pus infection must be eliminated. The treatment is surgical except in old people or when the attack is slight. Stanton: 100 cases were men of thirty forty eight sixty three and sixty five respectively. The first had tender mass on the left and was relieved by operation. The man of sixty five had a left-sided mass with obstruction which proved to be cancer secondary to diverticulitis; this was removed but the patient died of pneumonia in the third week. The man of forty-eight also had a tender movable mass on the left which finally disappeared; he refused operation. The man of sixty three had for years attacks of left-sided pain occasionally accompanied by vomiting at about the end of the second day. Each attack tender mass, which disappears within a few days, can usually be found in the sigmoid. In view of his age and extensive right operation was not advisable.

Nicholson: The Urachus as a Factor in Intestinal Obstruction; with Report of Case. *Lancet-Clark* 1933, 112, 285. By Surg. Groves & Ober.

The author reports the case of a 34 years of age who entered the hospital with a pulse of 40, temperature 97, respiration 36, greatly distended abdomen, and complaining of most intense pain about the region of the umbilicus.

An incision just to the right of the median line extending from the point one inch above to four inches below the umbilicus, disclosed a loop of ileum rotated upon itself which was suspended by a cord extending from the umbilicus to the summit of the bladder. After the much distended bowel had been released, the cord was ligated at its attachment and removed. Patient made an uneventful recovery.

In discussion of the origin of the cord causing the obstruction, it was shown from the studies of embryos and fetuses from six weeks to four months of age by Cuneo and Ves that the allantoic neck, first included in the ventral wall of the embryo, becomes disengaged therefrom and protrudes into the abdominal cavity being attached to the anterior wall of the abdomen only by thin membrane. As the result of an arrest of development in the transitory existence of the primitive peritoneum attaching the urachus to the parietal wall the membrane may become attenuated and finally disappear leaving the urachus attached to the extremities, which would explain the origin of the obstruction.

GASTRO-INTESTINAL TRACT

Galliot: A Picture of a Diverticulum of the Stomach without Corresponding Loss of Any Portion of the Stomach Wall (Image diverticulaire de l'estomac ne correspondant pas à une perte de substance de la paroi gastrique). *Bull. et mem. Soc. de chir. de Paris* 1933, 12, 1204. By Journal de Chirurgie.

In man, 65 years old who for thirty years had had slight stomach trouble and had recently had

severe pain and trouble with swallowing, radioscopic examination showed. An oesophageal pouch characteristic of a carcinoma of the cardia. A diverticulum of the lesser curvature indicating that this region was involved by the neoplasm. A large diverticulum of the greater curvature.

But as a laparotomy to perform gastrostomy showed, this large diverticulum of the greater curvature did not correspond to an ulcer scar, nor to new growth. This apparent diverticulum then was due entirely to an abnormal and passing contracture. It should be stated that the diverticulum of the lesser curvature remained fixed, whereas the one in the greater curvature seemed during the radioscopic examination to be affected by the movements of the stomach.

This observation shows that radioscopic examination brings to light many points that could be missed by simple radiography.

Drysdale cited a case in which the radioscope as deceiving. A case which he and Enriquez had diagnosed as duodenal ulcer radioscopically made by Enriquez showed a deep indentation of the greater curvature extending toward the lesser and remained during the whole examination despite the movements of the stomach, which made the presence of large carcinomas of the stomach seem likely. At operation no change in the stomach was found. DeBart performed a gastro-enterostomy and an uneventful recovery followed.

Rutaud discussing the case of Galliot, reported case in which there was perfect picture of an hour glass stomach, the stomach being completely divided into two parts connected by narrow canal. This radiograph led to the making of a series of radioscopes during the next few years in all of which exactly the same state of affairs was found. Its constant occurrence during three years made it seem to be fixed lesion. However at operation it was found to be contracture of the middle of the stomach at the sight of an old, small, healed ulcer situated in the lesser curvature which did not persist under the relaxation of an anesthetic.

While recognizing the immense value of radiography and admitting its superiority to simple radiograph it must be granted that pictures of the stomach containing bolus of bismuth must be subject to misinterpretation and repeated control and should not be accepted except when interpreted by skilled observers. J. Debove.

Sasse: Gallous Ulcer Involving the Entire Stomach; Eschdase; with Comments on Complete Loss of the Stomach and the Technique of Stomach Resection (Ulcer callosus circumscriptus totalis; Eschdase, wobei Bemerkungen über den dazusenden Verlust des Magens sowie über die Technik der Magenresektion). *München med. Wochenschr.* 1933, 12, 890.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Demonstration of an extreme case of contracted stomach resected in toto. The entire stomach was involved in a callosus ulcer. The Roentgen picture

had shown it as a narrow shadow of about finger breadth, slightly arched and extending from the oesophagus to the region of the pylorus. It had been diagnosed clinically as malignant stenosis of the pylorus. The stomach wall was 1 cm. thick, the submucosa being heavily affected. Carcinoma could not be demonstrated. There had never been any vomiting and blood could not be demonstrated chemically in the stomach contents. The patient bore the operation well and a year and half later had gained 25 pounds in weight, from which fact Sauer concludes that the complete loss of the stomach has no bad effect on the state of nutrition. The technique of this operation is as follows: After freeing the greater and lesser curvatures, the stomach was cut off at the pyloric end. Traction was made on the stomach to pull down the cardia and the oesophagus. The anastomosis was made in the mesocolon between the upper end of the jejunum drawn through it and sutured to the posterior surface of the duodenum at the stomach. Finally the stomach, as severed at the cardia end and anastomosis completed in the usual way. Sauer recommends this as an exceptionally good technique for this operation.

Kolb: The Permanent Result Obtained with Ligation of the Pylorus with Omentum and Fascia (Ligature duodeno-pylorica bei der Ulnsicherung des Pylorus mittels Netz und Fascie). *Deutscher Chir. Kongr.*

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

At the Friedberg (Hann.) the thor has practiced ligating the pylorus with utoplastic material (omentum and fascia) since the bleeding ulcer of the stomach. The duodenal stenosis in place of the unilateral pylorus exclusion method of von Eiselsberg. If treated eighteen cases three with omentum and fifteen with fascia. The first nine cases died within nine months and are alone considered. All nine cases were examined lately. By means of barium sulphate it was found that the pylorus was closed in all and that the stomach emptied itself within one hour through the gastro-enterostomy opening. The patients looked well, had gained in weight and felt all well. No occult blood could be demonstrated.

The technique of the operation is as follows: The strips of fascia are at least 3 cm. wide, not too thin and free of all fat and muscle. It now uses only the fascia lata. The pylorus should not be tied too tight, just sufficient to occlude the duodenal lumen. Such a strip does not relax if it is sutured to the serosa with fine silk or catgut, as was demonstrated in the re-examined cases. Parleyvechup also advises this. The thor fastens one end of the fascia to the serosa by means of sutures and then draws the strip through and fastens the other end, placing a few anchor sutures to prevent it from moving. The fascia is not knotted. The ideal method however is the unilateral pylorus exclusion of von Eiselsberg. The disadvantages (more serious and time-consuming)

mail, a more rapid method desirable in weak and anemic patients. The thor believes, however, that the autoplasmic ligation of the pylorus deserves the preference over the von Eiselsberg method. In those cases in which no fascia is available the ligation can be carried out with a strip of mentum just as successfully.

Köttner: Duodenal Ulcer (Ulcus duodeni). *Deutscher Chir. Kongr.*

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The thor discusses the most important points in the pathology and treatment of duodenal ulcer based on his own experience and that of eighty other surgeons among total of eight hundred cases. The apparent discrepancy between the German and Anglo-American figures is explainable. In Germany conditions are considered. In Germany there are a large number of cases in few hands, while in the Anglo-American countries the operation is performed only in the advanced stage. The predisposing factors of an acute duodenal ulcer are laparotomy, appendicitis, septic infections, etc. According to the author experience, amputations may be added to the list. They particularly predispose to the chronic ulcer. Of the symptomatology the hæmorrhage is the most important as Wyethman emphasizes. This hæmorrhage is of equal significance to the late pain, or night pain, and with the periodict. The pains are due to pylorospasm and are not particularly pathognomonic. They can occur in ulcers, enteritis and in carcinoma. More constant is the periodicity as result of the healing and recurrence. The absence of occult blood in the interval is important. Something has lately been gained in the objective findings. Hyperchlorhydria is not constant and not very frequent. Of more importance is hypersecretion, which may be present even in the empty stomach. Achlorhydria may occur. Motility is a intermittent insufficiency, and usually twelve-hour retention (Kamp). Occult blood may be absent, even in the florid state. Spontaneous and pressure pain is localized in the epigastrium usually to the right of the median line but more frequently the sensitiveness is diffuse.

Only the ulcers in the anterior wall can be seen during laparotomy therefore it is necessary to open the duodenum (Wilms). Complications are frequent so that Simmons finds a mortality of 70 per cent, due to perforation and hæmorrhage. Ulcus ventriculi is frequently accidentally found as a boundary line between stomach and duodenum. The vein of Mayo is sufficient for practical purposes. The differentiation of gastric ulcer from duodenal ulcer is important from a prognostic point of view. There is slight tendency to cure a healed duodenal ulcer is rare seen. The treatment must be surgical so long as the results of internal therapy are doubtful. Indirect surgical treatment is the more frequent procedure, as resection is highly dangerous and possibly ulcers of the anterior wall. Of the indirect methods, gastro-enterostomy in absence of

ing upon a marked and long standing obstruction, which because of the small quantity and liquid state of the duodenal content is of slow progress. Antiperistalsis is also seen at times. When stenosis is complete finger-like projection is seen extending from the pylorus to the point of stenosis.

E. K. ARMSTRONG

Rowlands, J. J. *Jejunal and Gastro-Jejunal Ulcers.*
Gut, Hosp. Gaz. 9, 3, xviii, 249.
 By Surg., Gynec. & Obst.

A general discussion of the etiology of the conditions under consideration is given together with description of the treatment and report of two cases. Jejunal and gastro-jejunal ulcers follow a certain percentage of gastro-enterostomies but it is significant that it has never been recorded as following gastro-enterostomy which was performed for malignant disease. The apparent immunity which these cachectic patients seem to enjoy is probably due to the diminution or absence of free hydrochloric acid in their gastric juice. It is estimated that this complication occurs in about 5% of the cases where gastro-enterostomies are performed for non-malignant disease. The condition is found especially after anterior gastro-enterostomy and, above all after antero-anastomosis, the Y type of operation in both of which the acid gastric juice unaltered with the bile or pancreatic juice comes in contact with the mucous membrane of the jejunum.

The uncertain causes of the original ulcer of the stomach or duodenum may play some part in the new ulceration. Some of the most likely are chronic septic absorption from an inflamed appendix or gall bladder or the ingestion of infective material from a septic mouth.

The symptoms usually appear after a considerable period of apparent good health following the operation. The first thing complained of is indigestion, with symptoms simulating those of duodenal ulcer except that the pain which the patient usually describes as burning is usually situated to the left of the middle line above the level of the umbilicus. Further its relation to food-taking is far less striking although it is usually aggravated by solid food so that the patient limits his diet mainly to liquids and soft foods. Sometimes the pain is relieved by food but it usually comes again in an hour or two. Usually there are nausea and loss of appetite and occasionally vomiting and even hematemesis, with signs of dilatation of the stomach. There is often tenderness and rigidity to the left of the umbilicus and there may be an induration here due to plastic peritonitis, with adhesion to the parietes and even cutaneous fistula may form. At any time signs of perforative peritonitis may develop. Sometimes the patient has been perfectly well following his operation and the first sign of trouble is a very acute pain in the abdomen with the rapid development of signs of perforative peritonitis.

The treatment of these ulcers should be medical

until it has been shown that this is of no avail. Medical treatment consists mainly of rest in bed, feeding of bland alkaline and fatty foods, and the neutralizing of the gastric juice with alkalis.

Radical operation is usually undertaken after medical treatment has proven of no avail. Finney's method of enlarging the pylorus may be used to great advantage in some of the cases. It provides free drainage of the stomach cuts down the acidity of the gastric juice and allows the patient to eat more.

A more extensive radical procedure consists in the separation of the jejunum from the stomach, the closure of all the openings and the formation of an entirely new and improved gastro-jejunoanastomosis. This is probably the best procedure of the condition of the patient will allow of its execution. All operative procedures, however, should be followed up by careful medical treatment, in order to prevent recurrence of the condition. JAMES H. SEILER

Ladd, *Progress in the Diagnosis and Treatment of Intussusception.* *Boston M. & S. J.* 9, 3.
 By Surg., Gynec. & Obst.

The author states that, now the controversy as to whether intussusception should be treated by inflation and irrigation, or by immediate operation is over and timely surgery is considered the best treatment, it is interesting to see whether any reduction in mortality has taken place and whether we have at our disposal any means for still further reducing it. In 1908 Stone reported eight patients operated with one recovery in the Children's Hospital for the previous five years and also eight patients operated in the Infant Hospital with one recovery in the previous ten years. Codman, in the same year reported ten patients operated in the Massachusetts General Hospital in the previous ten years with one operative recovery. This patient later died from hernia operation. These cases give a mortality of over 90 per cent. In general hospitals the surgeons have an opportunity of operating only once or twice in ten years and consequently lack uniformity of method. This suggests the advisability of having these cases sent to a hospital devoted to the care of children or having surgeons especially qualified for the work of taking care of them in more general hospitals.

The cases reviewed were operated by Stone and the author. Each had ten cases in the five years since 1908. Six of Stone's cases recovered while five of the author's lived. In this series there was a mortality of 45 per cent, which is just half of that reported from the three hospitals mentioned above five years ago. This is encouraging and the author believes the results have been made possible by the co-operation of the pediatrician, the general practitioner and the surgeon. With earlier diagnosis and operation, intussusception will be removed from the list of diseases of high mortality.

The following facts from this series of cases are interesting. The average age of Stone's six cases

which recovered was 1 year, average duration of symptoms in four (duration not mentioned in two) was thirty six hours. The average age of the five patients operated by the author was seven months and average duration of symptoms was forty-eight hours. Of the patients that died the duration of the symptoms was nearly the same. A case was lost where the duration of symptoms was less than forty-eight hours and with no exception no case with symptoms lasting over forty-eight hours was saved. The deduction to be drawn is that most gut cases within forty-eight hours and preferably within thirty six or twenty-four hours.

The author draws attention to the fact that the description of intussusception given in most text books is that of a patient who has been sick for about two days. It is far more useful to the practitioner to remember that infants in the early stages of intussusception between paroxysms of colic pain are apt to look perfectly well and have no elevation of pulse or temperature and that the mother's story of a baby who has been well and suddenly taken with an attack of abdominal pain, associated with drawing up of the legs and followed by vomiting, is sufficient reason for making thorough abdominal examination even if the baby looks well. At this period, before any distention has taken place, a small mass of resistance may be felt any place along the course of the colon but in this early stage is most likely to be felt in the cecum or between there and the middle of the transverse colon. The next sign which presents itself is blood in the stool. The presence of blood, without much feces and mucus and the frequent movements characteristic of infectious diarrhea, is practically pathognomonic of intussusception. Any patient passing blood as described should be taken to the surgeon at once whether tumor is felt or not. Later the classical symptoms appear the treatment becomes difficult and the prognosis grave.

Lately the author has been using bismuth paste injected into the lower bowel to aid in the early diagnosis of these cases. There are several X-ray plates illustrating the article. The bismuth travels up the colon readily and reaches the intussusception. In these cases the shadow cast is suddenly and sharply cut off at the upper border. It has only been tried in three cases as yet but the results tend to show that it may be useful in the early diagnosis of doubtful cases.

EDWARD L. CORWELL

Green, Kellogg and Harris: Spastic Paralytic Ileus. *Boston M & S J* 9, 3, 1914, 380.

By Surg., Gynec. & Obst.

The article deals with reports of three cases of spastic paralytic ileus following laparotomy. The first followed a bilateral salpingectomy and appendectomy. The cecum was difficult to deliver into the median incision and considerable traction was made in the ileum near the cecum during the appendectomy. The patient died 8 hours after operation with symptoms of acute dilatation of the

stomach, the distention beginning in the upper abdomen. Partial autopsy through the incision showed an annular constriction of the ileum 4 inches from the cecum where the gut was flattened, dull, slightly reddened and contracted. Its walls were in spasm. The gut above and the stomach are enormously distended. The distal four inches of ileum, the cecum and the large intestine were flat, with no signs of peritonitis or hemorrhage.

The second case was laparotomy for adherent retroversion and salpingitis in a patient who had had previous laparotomy for old pelvic inflammatory disease. In freeing adhesions along the old incision considerable traction in the gut was necessary. This patient died and partial autopsy through the operative wound revealed spastic annular constriction 1/4 inch long where the gut had been separated along the original incision. No signs of peritonitis were present. The symptoms were the same as in the first case.

The conclusions drawn are: Death as due to intestinal obstruction from a localized tonic contraction of the circular smooth muscle fibres of the small intestine, caused by surgical trauma. From the nature of its pathology which was probably mechanical injury to the plexuses of Auerbach and Meissner the most convenient descriptive term for the condition seemed to be spastic paralytic ileus.

The lesson learned from these cases is the immense importance of avoiding pinching trauma to the bowel during laparotomy. The small intestine seems more liable to the condition than the large, hence in appendectomy traction should never be made on the ileum for the purpose of bringing the cecum into the wound, but only the large intestine should be employed for such necessary traction.

Harris: Report of Case of Fecal Impaction in the Ileum for Fifty-three Days with Recovery. *J Am M Ass* 9, 3, 1914, 72.

By Surg. Gynec. & Obst.

Harris reports a unique case of intestinal obstruction in a man 60 at the age of 60 had an obstruction due to carcinoma of the sigmoid, relieved after seven days by cecostomy. At 6 he had fecal impaction lasting forty-three days relieved by a ride on a jolting lumber wagon. At 63 fecal impaction lasting fifty-three days was relieved by lavage of the ileum through the artificial anus. He died of acute obstruction from prolapse of the cecum through the cecostomy fistula four years after the establishment of the artificial anus. This patient was seen by Harris in his third attack fifty-three days after his last bowel movement. During the time of fecal impaction the patient passed only gas through the artificial anus and nothing by rectum except small quantity of blood-stained mucus. During the entire time he worked on the farm and ate three meals a day his appetite beginning to fail only a day or two before he presented himself for treatment. Harris presents in detail the physical and lab-

boratory findings in this case including X-ray pictures.

Concluding his report he says

Carcinoma may be complicated by contraction of the opening requiring dilatation from time to time, by fecal impaction necessitating irrigation through the artificial anus, and by prolapse of the cecum through the carcinosomy fistula.

2. Fecal impaction in the ileum in this case was due principally to ingestion of fruit seeds and imperfectly masticated vegetables such as string beans, which became impacted at the ileocecal orifice.

3. Mere fecal accumulation does not cause urgent symptoms as long as the intestinal gases have opportunity to exit. The distention may produce displacement of the liver and stomach without marked interference with their functions.

4. The urine in this case became dark red from elimination of bile pigments and bismut red red urobilin in the intestine and the urine contained a few hyaline casts, but no albumin.

5. Treatment to be effective must be persevering and should be conducted with full knowledge of the probable existence of stercoral ulceration in greatly distended intestine and of the possibility of separating the bowel from the colon by my opening by any and violence.

6. Prolapse of the cecum through the artificial anus may prove fatal unless skillful surgical attention is promptly available. L. G. DWAX

Patek: A Case of Primary Sarcoma of the Small Intestine (Ein Fall von primärem Sarkom des Dünndarmes). *Zentralbl. f. Gynäk.*, 9, 3, 1909, 414. By Zentralbl. f. d. ges. Gynäk. Gebärtsch. d. Grenzgeb.

Sarcoma of the small intestine is more frequent in men than in women. The percentages quoted are 9.8 per cent (Baltzer) 77.5 per cent (Reinwald). The eleven cases reported in the literature, Patek adds one of intestinal sarcoma in a woman who was operated upon.

The patient, 40 years old, previously well, took sick three weeks before admission. She had intermittent attacks of severe pain in the right iliac region. Little importance was attached to these attacks even after the abdomen showed enlargement and increased resistance. Fever and vomiting were absent, but there was marked constipation. Pains subsided at times, only to recur in more aggravated form. Quite emaciated on admission, abdomen everywhere soft, with moderate tenderness in right hypochondrium. In umbilical region and little to the right hard movable tumor the size of a fist, irregular with rough nodular surface not tender but dull on percussion. Per vaginam the uterus was small and adnexa free. A tumor was apparently adherent to right appendage by band of adhesions. Diagnosis ovarian cyst with twisted pedicle, or intestinal tumor.

Median laparotomy revealed large bluish tumor, covered by omentum little to the right and behind the uterus, so that for moment it gave the impres-

sion of a bel pregnancy. It was difficult to separate the tumor from transverse colon, ileum, and jejunum. Tumor was ruptured and discharged reddish brown fluid, and granular masses originated from jejunum, wall of which contained a nodule the size of hazel-nut. Mesentery thickened and infiltrated at its intestinal attachment. Enlargement into abdominal cavity occurred from primary nodule in jejunum also largely dependent on hemorrhage which had partially organized. Tumor itself was flaccid and friable. Two engorged vessels, the size of a goose-quill extended from tumor to intestine. The gut was resected 10 cm. on either side of tumor and lateral anastomosis was done. Lymph glands on both sides of spine were large and infiltrated. Perfect union. Microscopic examination large spindle-shaped sarcoma with profuse hemorrhage. Section cut the bowel resembled fibrosarcoma with connective tissue similar to smooth muscle fibre. Tumor apparently originated from muscularis of the bowel.

Some think that sarcoma of the small intestine does not produce symptoms of stenosis or obstruction and use this to differentiate it from carcinoma. Others contend that in half the cases these symptoms do occur. Increased tenderness is said to be diagnostic of appendicitis. In this particular case there was only slight tenderness, but severe attacks of pain and persistent constipation. When the patient reported seven months after operation there were no signs of relapse. Taux.

Hartmann: Vegetative Adenomata of the Superior Portion of the Small Intestine (Ein Beitrag zur Pyloric Stenose) (Adénomes végétants de la partie supérieure de l'intestin grêle simulant la sténose pylorique). *Presse med.*, Par. 9, 3, 1909, 14. By Journal de Chirurgie.

Hartmann has had an opportunity to observe and operate upon two cases of polyp of the duodenum. These are of interest because they are very unusual and in each the tumor had produced a gastric stricture which simulated the stenosis caused by ulcer.

Case. A woman, 40 years of age, without any preceding gastric symptoms was seized with epigastric pain, vomiting and diarrhea. She was treated for ulcer of the stomach but the pains continued the epigastrium became distended and she experienced feeling of suffocation with eructations. Examination revealed the presence of considerable residual fluid in the dilated stomach. At operation,

October 29, the pylorus was found to be normal and the first part of duodenum dilated. In the second part soft tumor the size of a turkey egg was found lifting the wall but not altering it. In the first part of the jejunum there was double invagination ascending and descending which was reduced with difficulty. Gastro-enterostomy was performed, the second part of the duodenum was incised longitudinally and within it a men was found soft lobulated tumor attached by a pedicle, one inch in diameter to the postero-lateral wall of

the intestine. The mucous membrane was locked around the pedicle which was then cut, three arteries ligated, and the wound sutured with silk. The duodenum was closed and recovery uneventful.

Case 2. This patient was 5 years old. For three years there had been pains in epigastrium beginning two to three hours after eating and continuing for several hours, when they ceased gradually or suddenly after vomiting. The patient became very thin, and the abdomen was distended. Examination revealed besides the above features, gastric splashing and at times peristaltic waves. In several attacks an ovoid mass was felt in the left flank which could be pushed up under the ribs but descended of gain immediately. There was considerable gastric stasis. The gastric fluid obtained in the morning contained bile. At operation June 8,

9 the stomach was found to be dilated, but otherwise normal, and the duodenum dilated. Immediately distal to the duodeno-jejunal junction was mass of twisted coils of small intestine. On untwisting these, the thor found two invaginations of the intestine which were easily freed. Proximal to the site of the higher invagination, a little above the duodeno-jejunal junction, tumor was palpable within the intestine. The bowel was incised and tumor studded with apple-like projections, was revealed almost filling the cavity. The wall was cut the pedicle excised and the opening then sutured. Recovery was uneventful. In October 9 the patient ate and digested well without experiencing any discomfort. Microscopic examination of the tumor revealed an adenoma as in case 000.

In these cases, besides the symptoms simulating pyloric stenosis, the occurrence of invagination is worthy of note. The invagination was apparently not caused by the migration of the polyp dragging the intestinal wall after it. The fixity of the intestine to the site of the tumor precludes such an explanation. The cause was rather perversion of the muscular action comparable to the observations of Peyer and Brunner who found temporary invaginations in animals as result of irritants of the intestine. J. DOWD.

Murphy Contraction of Intestinal Anastomotic Opening with Extensive Abdominal Adhesions; Cecal Prolapse. *Surgical Clinics of John B. Murphy* 9, 3, 8, N. S. By Surg. Gynec. & Obst.

A man of 40 was admitted on account of continuous abdominal distention and discomfort though not much pain, he also had cecal stasis. The history dated back five or six years when the appendix was removed. Nine laparotomies were performed in the previous four years, most of them for relief of adhesions.

At operation the intestines were found matted together and enormously dilated. The anastomosis between the ileum and the descending colon was contracted down to such a small diameter that considerable peristaltic action of the bowel was nec-

essary to force its contents through the opening. The result was hypertrophy of the bowel and distention of the intestines. The large intestine below the anastomosis was not materially distended. The large bowel proximal to anastomosis was not dilated.

The ileum had been divided close to the colon and the end of the bowel was closed. About 4 inches from the proximal end of the ileum it was anastomosed laterally with the descending colon, just below the splenic flexure. The anastomotic opening had contracted down to almost the size of a lead-pencil. The portion distal to the anastomosis was very much dilated. The catheter through which he irrigated his bowel passed down into the cecum. When the proximal end of the ileum was swung from the right to the left side the adhesions on the right side that were freed before had become re-established, so there was great tension between the anastomosis and the adhesions of the ileum in the right iliac fossa. Further the mesentery was not approximated to the posterior wall of the abdominal peritoneum to prevent the formation of an open loop. Through this open loop large portion of the small intestine had passed, and compressed the ileum which passed across the pelvis from the right side of the small intestine to the large intestine to which it was approximated. This spread out as a fan and produced retention by compression as well as retention by stenosis of the opening.

The opening present was enlarged, doing typical suture operation. The opening in the cecum as allowed to close.

The operation lasted nearly three hours, but the patient left the table in splendid condition. The following day he had a normal movement, the first in two years, and the bowels continued to move naturally. The tube was removed on fifth day primary healing. At time of report the fistulous opening had almost closed. The patient's condition was splendid, and he was gaining in weight steadily. L. J. McKEILL.

Cornall Etiology of Lane's Kink, Jackson's Membrane, and Cecum Mobile. *Surg. Gynec. & Obst.* 9, 2, 271, 112. By Surg. Gynec. & Obst.

The etiology of this condition is divided into inflammatory and non-inflammatory conditions and attention is drawn to the difficulty in differentiating between them. The inflammatory condition may follow or be independent of the kink or membrane. The author considers non-inflammatory factors as they offer rational explanation for the typical cases. He considers the question as to whether these conditions are acquired or congenital and discusses the views of Lane, Martin and Mayo. He advances a theory in which he considers the condition to be due to imperfect development. In support of this theory he mentions the contributions of Flint Gray and Anderson.

After reviewing the normal, most complicated embryological maneuver usually termed rotation

of the cecum, attention is drawn to the fact that this so-called rotation consists in three definite elements, namely migration, rotation and fixation. Each of these maneuvers is described in detail and following this is given the descriptions of the possible anomalies of the three conditions which may account for the pathological entities under discussion. As to the primary cause causes of these various abnormal or defective developments we are as yet entirely ignorant. A definite understanding as to whether these conditions are due to inflammatory or developmental condition is of the utmost importance from the standpoint of pathological treatment.

The author comes to the following conclusions: (1) Anomalous development offers a rational explanation for these conditions. (2) Coincident or resultant inflammation may cause confusion. (3) Describing the embryological changes in the ileocecal region under the single term rotation likewise causes confusion. (4) Such changes are migration, rotation, and fixation, one or more of which may be imperfect. (5) The Jackson or peritoneal membrane may be due to excessive rotation, delayed migration, or early or anomalous fixation. (6) The Lane kink may be due to excessive or anomalous fixation. (7) The cecum mobile is due to an absence of fixation.

EDWARD L. CORNELL.

Eastman. The Fetal Peritoneal Folds of Jönnesco Treves, and Reid, and Their Probable Relationship to Jackson's Membran and Lane's Kink. *Surg. Gynec. & Obst.* 9:1, xvi, 341. By Surg. Gynec. & Obst.

There is a striking similarity between the fetal peritoneal fold described by Jönnesco and Treves and designated by them the parietocolic fold and the adult peritoneal anomaly described by Jackson as membranous pericolicitis, and generally known as Jackson's membrane. There is probably also causal relationship between the bloodless fold described by Treves and a pocket-like, anomalous peritoneal reflection which is not rare in the adult, and which passes from the mural peritoneum upon the right side quite low down, extending upward and inward over the caput coli and vermiform appendix, to be attached to the last two or three inches of the ileum and to the peritoneum of the caput coli. It forms the boundary of a prececal fossa in which the cecal head and the appendix may rest as in a pocket. It is likely that in not rare instances during operations for appendicitis the caput coli with the appendix are sheathed out of this peritoneal pocket, the peritoneal fold, that is the bloodless fold of Treves, which forms the pocket being looked upon by the operator as an affair of adhesion formation.

Moreover although conceptions of Lane's ileo-pelvic band, the structure which is ascribed an important part in the causation of Lane's kink are somewhat varying, it may be well in discussing the

mature and origin of this band to recall that Reid has described under the name genito-mesenteric fold a rather common fetal fold of peritoneum which passes from the terminal portion of the ileum into the pelvis. Concerning this genito-mesenteric fold, which may be found in a surprisingly large percentage of fetuses after the seventh month, or even after birth at term, the question may be fairly raised as to whether it is not related to angulations or gravitations or other deformities of the terminal ileum to which it is attached.

The parietocolic fold of Jönnesco and Juvana in most cases arises from the peritoneum at the left or inner side of the ascending colon, passing over the anterior aspect of the ascending colon in an upward slanting direction. It is attached to the parietal peritoneum at the right of the ascending colon. It may adhere to the anterior and lateral aspects of the colon. Reid ascribes to this fetal fold practically the same relations as are presented by the parietocolic fold or Jackson's membrane when found in the adult.

The fold which was described by Reid has a secondary connection with the ileum and through the peritoneum of the meso-appendix, with the appendix itself a connection which perhaps is responsible for the frequent association of appendicitis and oophoritis. In a case seen by the author by lifting the last part of the ileum upward, a thin fold of peritoneum which was quite loose could readily be seen passing from the mesentery of the last part of the ileum over the brim of the pelvis to the region of the ovary. There was no sharp border of this fold upon the right side. It spread out on the right to a rather narrow fold of Treves. Reid describes this genito-mesenteric fold as passing under the appendix, whereas the fold of Treves passes over the caput coli and appendix. However in author's cases, the inner or left border of the bloodless fold of Treves ended below in the genital gland in the female, in the ovary in the female after birth, and at the intra-abdominal ring in the male at term. The genito-mesenteric fold as it was seen by Reid has not been seen by the author as a separate distinct fold, but rather as the inner prominent edge of the bloodless fold of Treves, passing from the terminal ileum to the genital gland. It is this genito-mesenteric fold of Reid, or the prominent inner border of the fold of Treves, as the case may be, which corresponds in its position and attachment to the ileo-pelvic band of Lane. The relationship between the fetal fold and Lane's band is, perhaps, only suppositional, but it seems not unlikely that they are identical.

Concerning the origin of Jönnesco's fold, it may be said that several succeeding stages of its formation indicate that adhesions form between the cecum and parietal peritoneum, while the cecum is still subhepatic. The subsequent descent with torsion or rolling forward on the long axis draws the mural peritoneum over the ascending colon in slanting direction.

Rheindorf: Appendicitis Ex Oxyuris (Die Wurmlarveninfestation ex oxyuris). *Med. Klin.*, 9, 2, 12, 33. By Zentralbl. d. ges. Chir. u. i. Grenzgeb.

Oxyuris may be demonstrated in high percentage of diseased appendices in childhood (in extirpated appendices in almost 50 per cent, in post-mortems 37 per cent). It occurs occasionally in adults. In these investigations the fact is to be emphasized that actual alterations due to the activity of the worms have been found in the extirpated appendices. These changes consist of superficial defects in the recesses of the mucosa. By serial section it can be demonstrated that these defects show transitions to slit-like or even total destructions of the lymphatic apparatus. In the defects and passages the oxyuris is found. Both are produced by the activity of the oxyuris. By careful examination of similar changes the percentage of so-called normal ppendices removed will be considerably reduced. In these appendices, secondary inflammatory changes of a superficial or deeper character may be found. Contrary to Aschoff's views these findings render probable a primary ulcerative stage of appendicitis due to oxyuris. One can also speak of an appendicitis catarrhalis superficialis in the pathologic-anatomic sense. Oxyuris carriers may therefore from time to time suffer from attacks of appendicitis. Cases without fever in which an appendectomy is made will show simple defects without inflammatory processes plus diffuse superficial inflammation. Even when the mucosa is undermined to large extent, all signs of the disease may be absent. Perhaps herein lies the explanation to the rapid onset of peritonitis in children, who attend school perfectly well in the morning, play on the streets at noon and in the evening develop perforative peritonitis. Possibly also it may explain the suppurative or sero-sanguinous peritonitis of small girls, thought to be due to disease of the adnexa. Whenever alterations are found without inflammation we must assume that the tissues have become accustomed to the presence of the parasite. Because appendicitis in children occurs frequently after infectious diseases, it might be thought that the weakening of the youthful organism by the infective process allows the parasite to continue its epithelium-destroying action, which then predisposes to secondary infection with micro-organisms. Treatment directed against the worm may in such cases be a double-edged sword. Still, oxyuriasis should be fought by rational therapy in practice.

Zorn Vienne.

Jackson: Retrocecal Appendicitis. *J. Am. M. Ass.*, 1913, 12, 285. By Surg. Gynec. & Obst.

Jackson agrees with Deaver in calling retrocecal appendicitis a bad type of appendicitis, on account of its serious complications and sequelae. He divides retrocecal appendices into four rather separate anatomic sub-varieties, as follows:

The appendix, possessing its usual mesentery, is distinctive only in the fact that it runs upward along the outer side of the colon, which overhangs

and confines it in the limited peritoneal space external to the colon.

2. In another type the appendix runs upward external to the colon under cover of the peritoneum of the posterior parietes, which forms its investment usually incomplete on its posterior circumference, and even though complete not furnishing a mesentery proper.

3. Again we have found the appendix running up along the external wall of the colon itself and invested by its proper tunica and likewise without mesentery.

4. In the fourth type the appendix runs upward directly behind the colon, beneath which it is buried in connective tissue entirely and has no direct peritoneal investment whatsoever.

The occurrence of an extracolic peritonitis following a retrocecal appendicitis may by upward extension along the outer side of the colon, reach the under surface of the liver and reaching here it may follow around, now forward above the hepatic flexure of the colon beneath the liver and result in a sub-hepatic abscess, or may further invade, more or less extensively the upper peritoneal cavity beneath the liver. More commonly following gravity it reaches the lower fossa behind the liver passes upward between the liver and diaphragm, and results in a sub-phrenic peritonitis, often terminating in an obscure sub-phrenic abscess.

Infection may also spread to the cellular and other retroperitoneal tissues and give rise to localized or diffuse cellulitis. In this case the colonic blood vessels may be involved in an infective phlebitis with dissemination to different parts of the body more particularly to the liver.

The symptomatology shows some distinctive features in retrocecal appendicitis according to the author. The initial epigastric pain and vomiting common to the ordinary variety is present as a rule without any noticeable variation. The local pain and tenderness in this particular variety is best elicited just above the crest of the ilium posteriorly. Abdominal or rectus rigidity so significant in the intraperitoneal appendix here is usually of transitory presence. Abdominal distension due to involvement of small intestines in peritonitis in ordinary cases is here usually very moderate or entirely lacking. The tumor if found at all, will be outward and backward, and often present only in the loin. With the subsidence of local signs the temperature often remains at from 101 to 102 F and the pulse is increased to corresponding septic ratio.

Jackson advocates early operation before the more serious complications manifest themselves. A posterior incision in the loin has been advocated, but he does not deem it advisable when the appendix is to be removed at the same operation, thing he nearly always does. Posterior loin drainage through the lower point of the lumbar fossa has lowered his mortality great deal. In conclusion the author states that the one surgical feature for strict observation in retrocecal appendicitis is posterior lumbar drainage.

R. W. McHARRY.

Fieschi: Prolapse of the Rectum (Prolasso del retto)
Clin. chir., 9, 3, 1915, 375.

By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

Among the various explanations for the disease, the author thinks the cause for the condition is dependent upon a resistant pelvic floor and a lack of proper function of the lifting apparatus of the rectum. He regards with Rottet as the principal factor of the prolapse an improper condition of the closing apparatus of the rectum. He discusses the physiological act of defecation which consists in the pressure of the colon on the feces from above, over which the sphincter is stripped with the aid of the levator. In insufficiency of the latter, caused by various factors, there is produced a first single and, on persistence of the condition, permanent prolapse. The method of operation which the author has devised is based on this theory.

It consists in an incision of the skin in the shape of an equilateral triangle 7 cm. on each side on both sides of the rectum to produce thorough scar formation. The ligaments between the levator and sphincter are severed, whereby the anal ring descends while the levator rises 6 cm. Next muscle bundle 1 cm. long and 3 cm. thick, of the gluteus maximus on both sides is separated from the sacral bones, which is turned in such a manner that it runs around the anal opening and is fixed with three catgut sutures anteriorly to the ligamentum arcuatum. Over this the triangular skin defects are closed. In this manner the author obtains functional separation of the sphincter and levator and a fortification of the perineal floor. Bonn.

Skinner: Fluoroscopy of the Gastro-Intestinal Canal. *Lancet-Chir.* 913, 415, 34.

By Surg., Gynec. & Obst.

To facilitate the examination the author uses a triple bismuth meal, the first given 4 hours, the second 6 hours, and the third immediately preceding his examination. In this way almost the entire tract is filled up with bismuth and he can ascertain the topography, the peristalsis and mobility and any defects in the entire gastro-intestinal tract as well as the result of operations and mechanical devices which may be employed. For colon examination he prefers the bismuth injection.

Among other things this method assists in the diagnosis of enteropneumosis, Lane's kink with associated duodenal kink, the presence of a Jacksonian membrane and a cecum mobile and may disclose physical basis for constipation which persists in spite of the usual treatment. Ill. A. Porro.

LIVER, PANCREAS, AND SPLEEN

Byrd: Non-Parasitic Cysts of the Liver. *Lancet-Chir.* 913, 415, 351. By Surg., Gynec. & Obst.

These cysts may be divided into two classes, i. e., general cystic disease and solitary cysts. General cystic disease is almost constantly associated with cystic disease of the kidneys, and rarely also of the

pancreas, lungs, spleen and brain. Out of eighty-five cases collected from the literature Moschcowitz found that the liver was affected alone in only ten. In the slighter forms of the disease the cysts are generally found just beneath the liver capsule, but when the condition is well marked the whole organ is affected and may be enormously enlarged. Microscopically the cysts are found to be lined by

layer of epithelium, which is columnar in the smallest cysts, but as the cavity increases in size the epithelium becomes cubical and finally flattened. The contents of the cysts consist usually in a clear watery fluid but it is sometimes yellowish-brown in color. In an early case, besides the macroscopic cysts one generally finds on microscopic examination a greater number of bile-ducts than are normally present in the liver. The author collected a series of eighty-eight cases, of which two were fatal, seven in newly born children, four occurred in the first year and one in the eleventh year. The other seventy-four cases occurred in adults, mostly in people over sixty. All the cases in infants were multiple and all were associated with other defects.

The following is a brief summary of other theories which have been brought forward to explain this disease.

That the cysts are formed by degeneration of liver cells.

That the cysts are due to dilatation of normal bile-ducts which have been occluded by inflammatory connective tissue.

3. That the condition is due to an overgrowth of bile-ducts or biliary angioma.

4. That the cysts are tumors, cysto-adenomata of the bile-ducts.

5. That the cysts are formed by tumor formation from embryonic remains.

The condition of general cystic disease is, of course, not amenable to treatment and is more of pathological than of clinical interest. In some cases, however, the largest of the cysts have been dealt with surgically under the impression that a solitary cyst was present. Solitary cysts of the liver on the other hand, are of considerable clinical interest, as they often produce well-marked symptoms and are usually amenable to surgical treatment. Although the term solitary cyst is a convenient one, it will be found that in many cases of apparently solitary cyst the liver tissue adjacent to the cyst wall contains potential cysts in the shape of acini lined by epithelium and in some cases actually small cysts in addition. Solitary cysts may occur in children, but most of the reported cases have occurred in adults. The author abstracts many cases selected from the literature on the subject and gives in detail a report of his own case, which was undoubtedly one of those rare cases of hepatic (presumably solitary) cysts of non-parasitic origin.

The most striking point in the clinical features of solitary non-parasitic cysts of the liver is the great preponderance of the condition in the female sex.

Of the thirty-four cases collected in this paper twenty-four were females, four are stated to have occurred in males, while the sex is not stated in six, i. e., out of twenty-eight cases in which the sex is stated nearly 86 per cent were in females. Age of the patients is stated in twenty-six. The youngest was Shaw and Eiling case, which was 8 months old. Miller's case was operated on at the age of three, but the abdomen had been noticed to be enlarged at birth. The oldest was 75.

As regards the clinical signs and symptoms, pain does not appear to be a very marked feature. Dyspepsia and vomiting occurred in several cases. Jaundice occurred in only one case. An abdominal swelling, in most cases diagnosed as cyst, is present in all of them. Fluctuation was generally readily obtained. Enlarged superficial abdominal veins were not noted in any case except in Shaw's.

Prognosis If curable, the prognosis of non-parasitic cysts of the liver is not favorable. That of general cystic disease is, of course, very bad especially if associated with cystic kidneys.

Surgical treatment should not be performed. Of the cases collected in this paper and in which surgical treatment delayed recovery occurred in only three. (Dewees, J. H. H.)

Delbet. Angioma of the Anterior Surface of the Liver; Removal After Hepatic Resection.
C. R. (Ann. Chir. Bordeaux 1904, 1, 101)
Paris 9 April. Réunion chirurgicale. For
No. 17. Journal de Chirurgie

A man, 50 years old, had in her epigastrium a tumor mass, extending into the abdominal cavity which was about the size of an orange had nodular surface as movable transversely but had developed great pain. There was no history to account for it. A probable diagnosis of malignant tumor of the stomach was made.

A midline incision was made in the abdomen and enlarged by cutting the right. Delbet found tumor attached to the liver by pedicle the center of which was the point of attachment of the falciform ligament to the anterior lobe of the liver. The umbilical vein crossed its posterior surface. The falciform ligament and the first three centimeters of the suspensory ligament were dissected free and the pedicle of the tumor 6 cm. in diameter was cut after hemorrhoids as secured by tightly tied continuous suture of heavy catgut. The abdomen was closed without drainage. Normal recovery.

The tumor weighed 50 grams, was 1 cm. in breadth, 8 cm. in height and 6 cm. thickness. It was bluish violet in color with some grayish white trabeculae on its surface.

On the surfaces made by sectioning the tumor were found cavities filled with black material—apparently coagulated blood. Microscopically the tumor was composed of number of cavities containing normal blood, lined with a continuous endothelium, and embedded in dense fibrous stroma.

It was a simple angioma simulating a cavernous hemangioma. (J. L. Roux, Nantes.)

Bain. Gall-stone Disease; Medical Treatment.
Practitioner, Lond. 9, 3, 20, 1914.

By Surg., Gyroc. & Obst.

It is the author's belief that the primary and essential factor in the treatment of this affection is the rectification of the digestive functions. The administration of drugs is erroneous, as the contents of a normal bladder will dissolve any gall-stone under aseptic conditions. After correcting the digestive errors, the administration of rotopro or other disinfectants is indicated. The lower intestine should be cleaned out thoroughly.

The diet should be kept plain, the patient's power of digestion, restricting fats and carbohydrates and prohibiting alcohol. Regular meals, regular hours, and regular exercise are routine measures especially adaptable to this disease. To arrest indigestion he administers pancreatic preparations combined with sodium sulphocarbide with bicarbonate and one vomica half an hour before meals. Mental tranquility should be sought. If there is hyperchlorhydria, olive oil is given. Treatment over the gall-bladder is treated by mustard-brain packs. After the digestion is corrected, he administers cholodin and eutrophia.

The author believes that gall-stones can be cured without operation if treated in the early stage. Among the predisposing factors he mentions sedentary habits, stagnation of bile in the gall-bladder, overeating, irregular meals, alcoholism, anxiety, indigestion, constipation, tight lacing, Glénard's disease, cardiac disease, emphysema, granular kidney and pregnancy. Each of these are then taken up in more detail. He states that it is generally believed that the exciting cause is microbial infection, particularly those bacteria which produce acid. Stone formation precedes the inflammatory process, but infection of the bile passages is a necessary factor in the production of gall-stone symptoms.

His method of palpating the gall bladder is as follows: the right hand is placed immediately beneath the ribs on the right side and the patient told to breathe quietly for minutes or 10. The hand sinks deeper with each expiration, so that the presence of tumor or very tender gall-bladder can, as a rule, easily be detected. In the majority of mild cases, tenderness of the gall-bladder cannot be detected in this way. The patient is then asked to sit up and to bend slightly forward. The examiner sits or stands behind the patient and places his right hand under the costal arch with the abdominal muscles completely relaxed he can then palpate the liver quite easily. In neurotic patients, where the statements cannot be depended on, the gall-bladder is approached from the left side and then from the right. The tenderness of the early stage is circumscribed and does not extend below the ribs. When it is detected in a line from the umbilicus to

the costal margin, the peritoneal investment of the gall-bladder has become involved and the affection has passed beyond the initial stage. With the patient sitting, spasm of the diaphragm can also be elicited by asking the patient to take deep breath, when if the gall-bladder is sensitive inspiration will be cut short suddenly. This is a sign rarely absent in advanced cases of cholelithiasis.

EDWARD L. CORNELL.

Kehr: A Review of Two Thousand Operations on the Bile Passages; a Comparison of the Results in the First and Second Thousand (Rückblick auf 2000 Operationen an den Gallenwegen; Das Gegenüberstellung der Erfolge der ersten und zweiten Tausend). Deutscher Chir. Kong. 93. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

In operations on the bile passages, the total mortality is 5.7 per cent. If however the severe complications are excluded (carcinoma, biliary cirrhosis, septic cholangitis) the mortality rate is only 3.4 per cent. If only simple stone cases are considered, the mortality is still lower only 3 per cent. The total mortality rate of the first thousand cases was 6 per cent that of the second thousand 7 per cent and that of his Berlin practice (350 cases) 8 per cent. The reason for the gradual yearly increase in the mortality rate is due to the fact that more severe cases were included. In the first thousand, the severe cases numbered 3.9 per cent in the second thousand 7.8 per cent, and in the 354 Berlin cases, 10 per cent. In the second thousand cases, the mortality rate in pure stone cases was a little lower than that of the first thousand.

Since the use of the T-tube in his second thousand cases, the mortality rate has gone down 3 per cent. Among the first thousand there were 202 cases with a mortality of 5 per cent and in the second thousand, 333 cases with a mortality of 2.1 per cent. In the first fifty choledochotomies, the mortality rate was 10 per cent. The total mortality rate corresponds to the percentage of the severe complications plus the two to three per cent mortality of the simple stone cases. No more cases of operative peritonitis develop even if he operates without gloves and mask. There were no wound abscesses of any severe nature, if the panniculus adiposus is not sutured. T-tubings, however are still necessary safe anesthetic and the prevention of hemorrhage in icteric patients. The safest procedure against hemorrhage is the early operation of icteric patients.

KATZENBERG.

Basse: Anastomosis Between the Cystic Duct and Duodenum (Über Choledochoduodenostomie). Arch. f. klin. Chir. 93, 4, 969. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Up to the present time anastomosis between the bile ducts and the intestines have been made only upon absolute indication. Regarding this question as to whether relative indications for an anastomosis exist there are necessary the conditions that drainage

for the bile may be made as natural as possible and that the procedure may not be more complicated than the already extensive primary operations and not made more difficult and dangerous. These demands are filled only by anastomosis of the cystic duct with the duodenum. By it the bile enters the intestine almost in its normal place and so can fulfill its physiologic function in digestion. Its flow is continuous steady and resultant ascending infection of the gall-bladder are impossible. Existing infections are put under a favorable condition for healing by the regular discharge of the bile. On the other hand, using the gall-bladder for anastomosis produces unnatural conditions which, as is seen from the literature, lead in some cases to an infection of the gall-bladder and ascending cholangitis. For the treatment of conditions of infection of the cystic duct and the bile system as it exists in stone in the cystic duct, also in cholangitis without concretions, the method of incision of the gall-duct and cystic duct with subsequent drainage was used universally. The following were given as the reasons for this method of treatment: first, elimination of the infected secretion; second, removal of the mass of bile; third, possibility of local treatment of the gall passages by irrigation; fourth, the ability to remove possible remaining stones. Critically examining these points in favor of drainage of the cystic duct, especially when compared with the suggested method of anastomosis of the cystic duct with the duodenum the following conclusions can be drawn: Point one is untenable because the organisms which infect the bile are normally present in the intestine and are, therefore, harmless, when the bile is allowed to reach the intestine through the anastomosis. Point two the removal of stasis, the main point is attained more completely by the method suggested than by drainage. Point three is of minor importance because healing is dependent much more upon free drainage of the infection. An irrigation which reaches the gall passages higher up would have to be done under such high pressure that an infection might be driven upward. Irrigation can hardly have an effect on the papilla through a narrowed cystic duct. Point four is of no importance—stones which may have been left behind can easily gain entrance to the intestine through the anastomosis, but if it slips past the anastomosis toward the papilla it becomes entirely harmless, because it can produce no stasis of bile. Drainage can offer no advantages but often has disadvantages, as for instance the great loss of bile, which is very important for digestion. At the same time there is loss of water to the body—the danger of decubitus, with following contraction of the passages, kinking, etc., is present. The long-continued treatment of the wound and all this is done away with by the anastomosis. Not in every case of choledochotomy should an anastomosis be done. An anastomosis is indicated only when the flow of bile is hindered. Naturally the stones are always removed. If the flow of bile through the papilla is entirely unhampered and

If there is no severe infection of the bile passage present primary suture of the cystic duct is performed. To determine the permeability of the papilla sound is not sufficient but physiological salt solution must be injected toward the lateral end of the cystic duct into a rubber drain and sterile syringe. If the solution flows off freely the primary suture is inserted. If the solution accumulates or runs backward partially there is a blockage to the outflow of bile and an anastomosis should be made. It is also indicated when there is a possibility of smaller stones higher up in the liver. The technique of the operation is as follows:

The anastomosis is made most easily at the point where the cystic duct runs behind the duodenum. The upper border of the duodenum is separated somewhat and pulled down ward, and a incision is made in the cystic duct longitudinally at this point $\frac{1}{2}$ cm. long. The stones are removed and the bile passages are refully examined. Opposite the longitudinal incision in the cystic duct there is made a transverse incision of the duodenum. The two openings are united by catgut suture running through the entire thickness of the bile over this is put a silk suture uniting the serosa and going through the muscularis. The duration of the operation is from ten to fifteen minutes. By stroking the duodenum downward it is so compressed that it is practically empty of contents finally flaccid tampons are introduced.

The author removed the gall bladder in all cases and tied off the cystic duct near its origin cut it off and sewed it over. The anastomosis cannot be used in cases in which there is a severe pericystic cholangitis, because of the general condition of the patient and because the high grade inflammation of the wall of the cystic duct will not permit suture to heal. In this case drainage is more serviceable. Obese patients with rigid bulging thorax with liver highly placed may make an anastomosis difficult procedure. The author has performed eleven anastomoses, the first 4 years ago. The results are lasting and good in all cases. The stercus disappeared rapidly and never returned and fever also was reduced to zero. The two best of nine cases in 11 cases there is secretion of bile for a time without however any after effects, other than protracted healing of the wound. The author gives the following conclusions. The anastomosis of the cystic duct to the duodenum in cases where there is an absolute indication, and when it can be carried out, is the method of choice. It is a relative indication, especially in recurring cholangitis with or without stones, and in inflammatory stenosis of the papilla, it is far preferable to the drainage of the cystic or hepatic duct, and deserves application in the fullest measure because it is better than any other method in producing a free drainage of bile and guarding against recurrence. Observations have shown that so-called recurrences following radical and properly performed operations do not often depend upon stones which were left behind

or nearly formed, but upon stasis and infections following stenosis of the papilla. *Urtter-Eckert.*

Remission Acute Perforative Cholecystitis Complicated by General Peritonitis. *Surg. Gynec. & Obst., 93, xvi, 336.* By *Sarg. Gynec. & Obst.*

The rarity of acute perforative cholecystitis associated with general peritonitis is pointed out and its dangers illustrated by two of the author's cases. The symptoms are those of an acute abdominal calamity associated with a area of increased tenderness appearing in the right iliac fossa which is easily led to a tentative diagnosis of acute appendicitis. In both the operation revealed bile-stained fluid, free in the peritoneal cavity and a demonstrable perforation in the gall-bladder. Infection, swelling of the cystic duct mucosa, distention of the gall-bladder, necrosis of the all due to infection, circulatory disturbances or even direct pressure of calculi are regarded as the cause of the accident. In each the mucous membrane of the gall bladder was swollen, hemorrhagic and gangrene was present in one of the cases. Careful attention to detail and the consideration of the various possible lines in the physiological group of organs in the gall bladder region are insisted upon as determining operation in the early stages. Later when spread of peritonitis occurs many of these possibilities may be eliminated and one is brought much closer to the real diagnosis. When in the late stages, the general abdominal signs and symptoms blight the local features, the importance of careful far-reaching history is shown.

Operative features are discussed and important to note is the very small class of cases showing acute abdominal signs in which bile is found free in the peritoneal cavity yet apparently intact bile tract is presented. In both the author's cases the perforation was used as an opening for the drainage to be.

The responsibility involved in watching an acute gall bladder subside is pointed out and warning given of this rather rare but serious outcome.

Gosses and Desmarest Cholecystectomy from the Front. (*De la cholecystectomie d'arrière en avant.*) *Presse med. Par.* 93, xvi, 307. By *Journal de Chirurgie.*

Gosses published, some time ago, a method of performing cholecystectomy by beginning at the cystic duct and working to the fundus of the gall-bladder. He has considered the best for ablation of the gall-bladder. In this article, based on a series of thirty-four operations he details especially on the indications and contra-indications of this procedure. The question as he presents it is as follows: Is the course of an operation the necessity for ablation of the gall-bladder may occur either when it alone is involved or in conjunction with opening the common duct. The question then arises as to the best method to be employed.

When there are many dense vascular adhesions,

when the gall bladder is retracted and chronic peritonitis under the liver is very marked, it is often very difficult to remove such a bladder and, if one succeeds, it is by atypical manoeuvres. In these complicated cases experience alone will accomplish the object with more or less ease. But in a case presenting no more than ordinary difficulty the adhesions being separable and the surgeon having access to the inferior surface of the gall-bladder and the cystic duct he may employ one of three methods of cholecystectomy. First, that of opening and cutting its inferior wall and lifting the cystic duct from one end to the other. This procedure should be adopted only exceptionally. It is of advantage in markedly trophied gall-bladder in order to reach the end of the cystic duct and to permit the removal of an incarcerated stone, but it is really a makeshift. One ought to try to remove the gall bladder and cystic duct completely. The cases where one is compelled to give this up will be more and more rare as one recognizes better the advantages that primary section of the cystic duct offers. The second method, or the classical cholecystectomy consists in separating the gall-bladder from its base towards the cystic duct. It is a good procedure and a natural one since the base of the bladder presents first. But in cholecystectomy by liberation the base first, it is sometimes necessary to find plane of cleavage between the surface of the gall-bladder and the liver dissecting with knife or scissors, and fearing that the gall-bladder may be opened, the surgeon has tendency to penetrate the liver tissue, which leaves the surface of the liver rough and oozing more than after retrograde cholecystectomy. Besides, in separating the bladder from its fundus towards the cystic duct, one meets the ramifications of the arteries. The main stem of the artery will then be cut several times. Finally when the separation has been accomplished, if one pulls strongly on the gall-bladder and cystic duct the hepatic duct is drawn up and bent to an angle so that there is danger of cutting it. Both Kehr and Gossel have had this experience.

The third method consists in beginning at the cystic duct, severing it and primarily separating the gall-bladder from the neck towards the fundus. According to the authors, it is the method of choice when one can easily recognize, isolate, and sever the cystic duct at its entrance into the hepatic duct. In a fat man with a wide thoracic base, a liver high up and small gall-bladder the procedure is at times not feasible. In the women, especially if thin with low easily-movable liver if the gall-bladder is not too much trophied, retrograde cholecystectomy becomes very simple procedure. If the authors' technique is mastered this operation is practicable in about two cases in three.

In the thirty-two cases in which the retrograde cholecystectomy has been practised the authors have not encountered single mishap. All have been cured. The operation has been more rapid, more certain, and hemostasis of the pedicle of the

gall-bladder has been accomplished in a thoroughly satisfactory manner. I those suffering from jaundice the hemostasis should be especially careful. Moreover the authors have been able to diminish progressively both the size of the drain and duration of drainage and they hope in many cases to be able to do away with drainage altogether. J. DUNOYER

Delefos A Peripancreatic Cyst Between the Leaves of the Transverse Mesocolon (Über eine peripankreatische zwischen den Blättern des Mesocolon transversum entstandene Cyste) *Dedische Zeitschr. f. Chir.* 9, 3, 1906.
By Zentralbl. f. d. ges. Chir. u. i. Gernaghe.

The cyst was observed in a male 48 years old and had attained the size of an adult head. The diagnosis could be made before the operation from the relationship of the tumor to neighboring organs and from the results of exact examination of the stool and urine, which permitted the assumption of normal function of the pancreas. Histologic examination of the cyst wall showed there was no epithelial lining. Chemical analysis showed the absence of ferment in the cyst content. The author therefore takes for granted that the cyst did not originate in the pancreas and probably was the result of a trauma which the patient had sustained at the age of 7 (marble block falling on his abdomen). The cyst was fastened by suture to the abdominal wall and drained. Cure resulted. It is remarkable that the patient suffered from severe itching of the skin. This, however, disappeared after the operation.

MOSEKOWITZ

Weldman Aberrant Pancreas in the Splenic Capsule. *Anatomical Rec.* 9, 3, 1906, 33.
By Surg., Gynec. & Obst.

This interesting anomaly was first encountered during the microscopic examination of material from an autopsy. The specimen was from a woman years old who had died of general peritonitis following suppurative endometritis. The viscera showed changes due to severe toxemia, but no neoplasm was found.

The pancreatic elements lay in a thick capsule the deepest layers of which consisted of dense connective tissue fibrilla. These fibrilla were more loosely arranged as the surface was approached and contained few nuclei of young type. A serosa could be traced in places, but was masked by the general fibrous exudate. All through the capsule were the foci of pancreatic cells. Duct arrangement was present and typical islands of Langerhans.

To explain the phenomenon, adhesion of pancreas and spleen was suspected. However the microscopic picture did not support this. The only way to account for the finding was by assuming diversion of embryonal pancreatic cells from their accustomed route. In this connection, guinea pig's spleen was examined in which structures were found strongly suggestive of pancreas.

The variation is not uncommon. Worth! in

1904 collected forty-nine cases. One of the early investigators stated that, in certain animals, the pancreas occurs normally in separate portions. Thus, in the mole, lobules are found distinctly removed from the main organ. In pelobates parts of pancreas are found in the walls of the stomach, and in the salamander in the walls of the jejunum.

To Warthin's cases Weidman was able to add 9 from the literature. Summarizing all these the locations were as follows in 68 cases:

Wall of stomach	17
Wall of duodenum	14
Wall of jejunum	20
Wall of ileum	3
Wall of intestine	
Diverticulum of stomach	1
Diverticulum of jejunum	
Diverticulum of ileum	6
Meckel's diverticulum	4
Umbilical fistula	
Mesenteric fat	
Great omentum	
Ilium of spleen	
Capsule of spleen	

The sizes varied from .4-9 cm., varying about the size of an almond.

The pancreas starts to develop in the second month of fetal life by projecting its hypoblastic buds into the ventral and dorsal mesenteries. Zerkow assumes separate anlage for the pancreas and for each accessory one if present. Warthin thinks that projecting buds of the sprouting pancreas are snared off by surrounding mesoderm and carried to aberrant positions which Adams adds that the cells must be so far differentiated that they are capable of producing only one type of tissue. Weidman thought Warthin's theory the most reasonable.

W. Q. BAKER.

MORONE: Transpancreatic Cholecystolithotomy: Clinical and Anatomical Study (La cholecystolithotomie transpancreatique: étude clinique anatomique). *Reforma med.* 9 3 1911, 74.

By Journal de Chirurgie.

In operating on the common bile duct the transpancreatic route is least used. Terrier has employed it twice and MacGrand, Kraske, and Tassinari have each used it. It is scarcely mentioned in most monographs on these subjects.

Delageniere, in his report in 1908, considers it as not having much of a future. The author reports the operations of this kind which were performed by Tassinari.

He considers the transpancreatic cholecystolithotomy of interest. It is indicated when the local conditions prevent the use of the transduodenal or retroduodenal routes. Finally it facilitates drainage of the common duct.

ANATOMY.

MISCELLANEOUS

HUNTER: Coeliotomy in Infancy and Early Childhood. *Am. J. Surg.* 9 3, xvii, 21.

By Surg. Gynec. & Obst.

The author states that the surgeon who operates on children should not overlook the following:

1. While the child may take the anesthetic well for a short period, if the administration be unduly prolonged serious collapse is more common than in adults; hence there should never be permitted the slightest delay in completing any operative steps which may be undertaken, i. e., the operation should be terminated in the shortest time possible consistent with perfect technique and the observance of adequate aseptic precautions.

The child ordinarily withstands the loss of blood badly; hence every possible precaution should be exercised to prevent and control hemorrhage and means should be readily accessible with which to replace such loss, if it becomes advisable or necessary by transfusion or introduction of normal saline solution.

3. The child endures cold badly; hence the extremities should always be amply protected, and if necessary be kept warm by artificial means; care should always be observed that the body be not unnecessarily exposed, and the operation should be performed with the child on a warm-water bed, or at least in a properly heated room.

4. The child bears hunger badly; hence nourishment should not be inadequate before the operation, nor should this feature be neglected thereafter. i. e., requisite feeding must be resumed as soon as permissible after completion of the operation.

He then goes on to quote several writers and reports the results of several men on single cases of abdominal operations in childhood. The latter half of the article is taken up with strong plea for early operations in cases of intussusception.

SURGERY OF THE EXTREMITIES

DISEASES OF THE BONES, JOINTS, ETC.

Pirie: Re-formation of Bone after Resection. *Edinb. M. J.* 9 3, 346. By Surg. Gynec. & Obst.

The author states that tubercular osteomyelitis of long bones is rare; as out of 8,800 patients exam-

ined by the X-rays in five years in the Dundee Royal Infirmary only 50 were found to be suffering from that disease.

He reports two cases in which 4 inches and 4½ inches respectively were resected from the lower end of the tibia for tubercular osteomyelitis and shows

by successive radiographs the gradual development of new bone. In one case the bone was restored in 5 weeks, and in the second 2 years were required. In the latter case after nearly 2 years without solid bone formation, the patient fell and fractured the new bone when reparative process again started up very actively and the new bone was soon solid enough to bear her weight.

In cases where the upper end of the fibula was resected there was no attempt at re-formation of new bone. It discusses the results of Allee's experiment in bone regeneration in dogs.

He thinks the best results can be obtained following resection (1) by preserving the periosteum as limiting membrane so the new bone may acquire normal shape (2) by keeping the limb at rest to prevent twisting or bending (3) by intentional fracture where the regenerative process is slow as this seems to act as a new stimulus to bone growth.

JOSE L. POZZA.

Dibbett: The Etiology of Rickets and Calcium Metabolism (Die Ätiologie der Rachitis und der Kalkstoffwechsel). *Deutsche med. Wochenschr.* 9 3. 1913, 55.

By Zentralbl. f. d. ger. Chir. u. L. Gussageb.

In contradistinction to Ribbert and Kasowitz, who deny any importance to disturbances of calcium metabolism in the causation of rickets, Dibbett emphasizes the fact that in florid cases of rickets the amount of calcium excreted by the intestinal tract is greater than the intake while at the same time the amount of calcium in the urine may reach zero. Furthermore the healing or cure of cases of rickets is accompanied by hyperretention of calcium in the organism (with coincident increase of calcium excreted in the urine).

These facts can not be understood unless one presupposes a disturbance in calcium metabolism. In the presence of an easily disturbed balance in calcium metabolism, any of the many harmful factors to the general economy of the infant may occasion rickets.

SCHEINER.

Flaker: The Diagnostic Significance of the Leucocyte Count in Osteomyelitis and Tuberculosis of the Bones in Childhood. *Boston M. & S. J.* 1913, April, 606.

By Surg., Gynec. & Obst.

The object of the paper is to draw conclusions from the average white blood corpuscle counts in acute osteomyelitis and tuberculosis of bones. The author defines leucocytosis as an increase of white blood corpuscles over 9,000 in adults and 10,000 in children. After citing a number of cases of acute and chronic osteomyelitis, the following conclusions are given:

1. The routine examination in all cases of osteomyelitis is 6,000 to 7,000.
2. The count varies directly with the acuteness of the process and with the patient's condition, higher in those whose condition is poor.

3. The degree of fever is a constant variant with the degree of leucocytosis.

4. High count is significant of pus or sequestra, or poor drainage.

5. Low count is indicative of a low grade process, a long standing process, or an acute process with free drainage.

Leucocyte counts were then made in a number of cases of bone and joint tuberculosis and contrasted with those made in acute infective osteomyelitis. The leucocyte counts in tuberculosis bone disease are largely negative, the evidence being against leucocytosis of any degree. The white count does not vary consistently with the acuteness or recency of the process, the temperature, or general condition of the patient, abscess or sinus formation or presence of von Pirquet reaction. Leucocytosis in tuberculous bone disease occurs in the presence of secondary pus infection.

F. G. DYER.

Lefars: Chronic Hypertrophic Osteitis without Abscess Formation or Necrosis (Contributions à l'étude des ostéites chroniques hypertrophiques sans abcès ni nécrose). *Bull. et mém. Soc. de chir. de Par.* 9 3. 1913, 495.

By Journal de Chirurgie.

Lefars reports the case of a man 35 years old, non-syphilitic, with negative past history who in the last few years, noted a series of hard tumors — bony tumors — the right tibia, with no crumpling pain or tenderness. His gait became more and more restricted as his limb increased in size and weight locomotion had been impossible for 15 months and patient was confined to bed for the last three months.

Lefars found the upper two-thirds of the leg twice the normal circumference. This area was covered with many hard tumors especially on the median surface of the tibia, the largest being the size of an orange. These tumors are rounded, smooth, non-adherent to the skin, and had the consistency of compact bone. All the muscles seemed absent save for vestiges of the calf muscles. No tenderness, ulceration or hyperemia of the skin was found. Movements of the knee were restricted and those of the foot were lost. After eliminating the possible diagnosis of sarcoma of the tibia — by the duration, slow growth, integrity of the skin, absence of general debility and general good health — Lefars diagnosed chronic osteomyelitis of an atypical form. He performed Gritti intracondylar amputation. Recovery was uneventful and the stump remained in good condition.

Upon examination of section of the bone no sequestrum, necrosis, cavity, nor cystic condition of any kind were found. Histological investigation revealed chronic inflammatory process and osteitis tending to tumor formation. It was not possible to determine the respective portion of the two processes. This, then, is a curious form of hypertrophic osteitis belonging to the cases which are on the border line between chronic inflammatory condition and a neoplasm.

J. DUNN.

He uses a dose somewhat less than that required to produce erythema, and avoids using a larger dose on the deeper tissues, because it is impossible to know what is going on below the surface. He refers to the work of Iselin, who, after the prolonged administration of the rays under an aluminum screen, found that injury had been done to the deep vessels. He tried the optimum dose: that is, the dose which will destroy the foci of disease and stimulate without injuring the surrounding tissues. In order to avoid disturbances of growth, he does not treat children under five years of age. In older children the normal epiphyses are not subjected to the rays, but the diseased ones are. No bad effects have been observed. All forms of joint and bone tuberculosis have been treated with the rays; tuberculous fistulae, even when secondarily infected, were found especially adapted to the treatment. Discolored granulations disappeared quickly and became clean and firm. He warns against treating a fungus which is on the point of breaking through the reddened skin. He has seen severe sterile perforation of the necrotic skin in such case, even when very small doses had been given. A limb is subjected to the rays from all sides without any skin protection.

The best ray is obtained from tubes of 5-7 Benarist, with a current of from 0.8 to 1 M. A. The uniformity of the rays during sitting is tested with Bauer quadrimeter or parallel spark-gaps. The desired intensity of the rays is measured with Holzknecht's radiometer. It amounts at each point of contact to about 3-5 Holzknecht units. The surrounding area is protected by plumbobismale. The distance of the focus from the skin is 30 cm. the test body was brought into range of the cone of rays at just half this distance. After exposure to the rays from all sides there is an intermission of twenty-one days and then the sitting is repeated. As transformer Rosenthal's universal induction coil and Simon's interrupter were used. After the Röntgen treatment orthopaedic appliances were used for rest and immobilization of the limbs. Fistulae were rayed five days after the injection of Beck's bismuth paste. In the clinical part of his report, Scheele discusses individual case histories more critically and gives instructive examples with X-ray pictures of the cases. Twenty treatments were given in severe cases. In conclusion he reports fifteen cases briefly.

SCHMIDT.

Russell Treatment of Lime Starvation. *Med Rec* 95, Jan. 11, 1914, 517. By Surg. Gynec. & Obst.

Russell claims that rickets, tuberculosis, scurvy (infantile and adult) and many disorders accompanying pregnancy and lactation, may all be traced to lime starvation. His experience, however, is confined almost wholly to tuberculosis.

His treatment, begun in 1906, is based on the theory that lime is essential for the health of plant and animal life. An insufficient supply will result in (1) imperfectly developed organs (2) lowered resistance to disease (3) lack of power to repair

physiological waste (4) lack of power to repair injury.

Lime phosphate, per se, cannot be assimilated but must first be combined with a proteid. The enzyme rennet combines lime phosphate with casein, forming caseate of lime. In man rennet occurs in the form of symogen and its formation depends upon the presence of free acids, especially HCl. In the absence of the latter the free ferment is invariably wanting, even though the symogen is present. However rennet symogen is secreted only when the secreting glands are destroyed, as in carcinoma. Only then does it become necessary to administer rennet or pepain. The administration of acid is all that is necessary to produce the active ferment. A diminished secretion of HCl is brought about by many conditions of ill health and is probably the usual fault in cases which finally end in tuberculosis. It is quite probable that there are proteids other than casein that combine with lime through the action of rennet, although it has not been demonstrated.

To insure the absorption of lime it is necessary to supply lime phosphate, casein and dilute hydrochloric acid. No one alone will answer. The main sources of phosphate of lime are milk and eggs. In the treatment he advocates the milk-egg-acid mixture which consists of two eggs, quart of milk and four drachms of dil. HCl. This quantity is used daily. He also uses an emulsion of mixed fats, from one half to two ounces in hot water twice daily in conjunction with rigid discipline and the usual hygienic measures.

He states further that acute tuberculous pleurides are plastic effusions, and should be regarded as evidence of an attempt at healing rather than an extension of disease. Serous effusion is evidence of lack of lime because the effusion is not plastic. In seven out of eighteen cases of probable pneumonic consolidation persisted for months because of the excessive amount of plastic effusion having been poured into the air vesicles. This condition cleared up after reducing the amount of milk and eggs and the omission of HCl. He reports 67 per cent of apparent cures in patients treated in all stages against 30 per cent apparent cures from six well-known sanatoria.

HENRY J. VANDEY BIRD.

Ely's Diseases of Joints and Bone Marrow. *Am. J. Surg.* 92, Nov. 1, 1913. By Surg. Gynec. & Obst.

This article is the beginning of a series and deals with the anatomy, physiology and pathology of bones and joints, and with osteoarthritis. The author bases his conclusions upon clinical observation, and laboratory study of about 120 specimens. He maintains that there are three active theories to be considered namely the synovial, the marrow and the inner layer of the periosteum and four passive theories, the bone, the cartilage, the ligament, and the outer layer of the periosteum, which merely manifest the changes in the other three. The inner layer of the periosteum is similar to the marrow in its functions and in its reaction to disease. The

quality of the marrow decides the location of certain diseases, whether in the shafts or at the ends of the long bones. Certain diseases select by preference the synovia certain others, the marrow; certain others the periosteum certain all three without preference.

The author discounts the importance of fibrin precipitation in joint disease and regards the cartilage as an absolute barrier to the progress of disease as long as its nutrition is unimpaired, hence maintaining that the cartilage is never invaded directly by any morbid process in the joint cavity. Any irritation in the joint, mechanical or bacterial, causes the synovia to proliferate.

The subject of acute (traumatic) (aseptic) arthritis closes the article and some of the more common injuries to the joints are described. The changes in a joint consequent to hemorrhage into its cavity (in hæmophilias) are regarded simply as a form of traumatic arthritis caused by a irritant. Gout is regarded in much the same light.

The article is illustrated by number of excellent photomicrographs which explain the author's views and make plain his meaning.

Rich: Considerations Regarding the Pathology and Treatment of Some Common Joint Diseases. *Yankee Med J.* 9, 3, 9

By Surg. Gynec. & Obst.

Rich emphasizes the fact that where formerly a patient with fever, rapid heart and constitutional symptoms accompanying swollen and painful joints, was supposed to have rheumatism and as given the salicylates, we now consider such a septic toxic, or acute rheumatic rhinitis. He says that ideas have changed so much that it is almost necessary to remind the profession that there is disease rheumatic fever. Under septic arthritis he classifies those joint conditions due to infectious agents, with their entry through the tonsils, teeth, genito-urinary tract, etc. These cases show the fever and chills found in all the most acute infections. Several joints are generally affected being tender and swollen and sometimes contain pus. Removal of the cause gives relief. He reports a case of typhoid arthritis. The pathology is based on a toxæmia of pneumococcal arthritis cases and he concludes that the synovia is most often affected. The organisms were found. Many such cases re-diagnosed as articular rheumatism. Joint destruction is not great. Salicylates do no good. Autogenous vaccines consist in the rational treatment. He holds that toxic arthritis is due to toxæmia from intestinal absorption and is of short duration. He reports a case in a child cured by high enemata. All cases of acute arthritis are treated by fixation in plaster for a period longer than is needed for fractures. The author thinks arthritis deformans mainly a frictional disorder of bones, principally the ends, and should be called osteo arthritis. He says there is little trophic and no constitutional symptoms also that faulty metabolism, elimination, or

internal secretion and the menopause are causative agents. Chronic rheumatic arthritis is the terminal result of acute rheumatic arthritis of joint, with a great atrophy of muscles and is predisposed to early life. There is impaired health, irregular progress with relapses and periods of improvement. The author thinks that the best treatment for arthritis deformans is by high colonic washings of gallons of water daily. Iodine antiseptics help. Deformities should be corrected under an anæsthetic, if necessary then kept at rest and baled daily in an oven. He claims to have had good results from the foregoing treatment. C. A. STONE.

Rosenow: The Etiology of Articular and Muscular Rheumatism. *J. Am. M. Ass.* 9, 3, 12

By Surg., Gynec. & Obst.

Rosenow in this preliminary note sets forth some very interesting results which he obtained in his work with the streptococcus group in its relation to rheumatism. Recognizing rheumatism as an acute infection he states from clinical and experimental facts that the etiology must be laid to streptococci of some variety but what particular strain is not settled. In a series of eight cases of acute articular rheumatism, all typical and not unusually severe, he isolated organisms corresponding closely to the micrococcus rheumaticus from one or more joints, and obtained positive blood culture in two out of four cases. He isolated similar organisms from cultures of tonsils in two cases. Two of his cases had distinct muscular and tendinous involvement.

In a series of experiments on rabbits, guinea pigs, white rats, and dogs, he found that these cultures were of low virulence, midway between the streptococcus viridans, and the hemolytic streptococci and pneumococci, producing lesions very different from the latter. I. e. multiple nonsuppurative arthritis, endocarditis, pericarditis and myocarditis. Strains of culture obtained from the tonsils at the height of the attack gave the same results as those from the joint. He points out that freshly isolated cultures did not produce abscesses, but by passing them through animals abscesses were produced. By animal passage and other means he converted these strains into typical hemolytic streptococci on one hand and pneumococci on the other hand. He also found that in the transition stages one strain from the joint lost in character its affinity for pericardial and articular lesions, but acquired pronounced affinity for myocardium and skeletal muscles.

He obtained lesions in the skeletal muscles in twelve rabbits, three dogs, and one monkey. He describes the lesions as elongated, variable in size, and running parallel with the muscle fibres. They contain few leucocytes and large number of living cocci. Microscopically they show coagulation necrosis of the fibres. The distributions of the lesions were most numerous in the tendinous portions of the extremities and flat muscles of the neck and shoulders, corresponding to rheumatism

in man. The virulent strains produced hemorrhages into the stomach, duodenum, sclera, retina and iris. In all the animals mild arthritis and endocarditis were present, and in most pericarditis of a mild type. He also emphasizes the important rôle that cold plays in rheumatism, and states that exposure to cold after injections of rabbits increased the percentage and degree of the joint involvement. Injections of frogs kept at temperature of from 21 to 32 C. with pneumococci, ordinary streptococci and the cocci from rheumatism, shows that frogs are not susceptible to the former but that they succumb to the latter.

It finds that the rheumatism cocci grow best at low temperature and this may be one of the reasons why chilling aggravates so markedly the symptoms of rheumatism. J. O. WALLACE.

Lindsay M. J. *Rheumatoid Arthritis in Children.*
Edinburgh M. J. 9, 3, 2, 33. By Sarg., Gynec. & Obst.

The author believes that true rheumatoid arthritis of the trophic type occurs in children more frequently than is commonly supposed, and that the disease differs in no way from the adult type except that it progresses more rapidly and that glandular enlargement is more common. He believes the condition described by Still in 1897 and known a literal re as Still disease is typical trophic rheumatoid arthritis with glandular enlargements.

He believes this disease is due to infection or to trauma and calls attention to the fact that glandular enlargement is much more pronounced and frequent in children following infections or traumas than in adults. He says, True osteoarthritis (hypertrophic arthritis) of the polyarticular variety is met in rarely if at all, in children. The etiology and mode of onset is practically the same as in adults. Females are more frequently affected than males. The author describes sixteen cases, ten females, six males, between 10 and fifteen years of age, noting particularly the mode of onset. Attention is called to the tendency to symmetrical involvement of the joints, the marked trophic and the early tendon contractures.

Treatment by medicines, mechanical measures, diet, massage, local applications, and at times is discussed. Special stress is laid upon complete rest of the affected joints, and equable climate, generous diet especially of milk, cream, butter and fats. Strychn ferri iodid, and gaseous carbonat are recommended for medicinal treatment.

JOHN L. POWER.

Ely Jot. T. berculosis. Intern. M. J. 9, 3, 2, 33.
By Sarg. Gynec. & Obst.

Ely defines joint tuberculosis as proliferative inflammation of the bone marrow and of the synovia or one of them characterized by the formation of typical tubercles and caused by the tubercle bacillus. He asks, Why does tuberculosis affect the ends of the long bones and not the shafts? Various unsatisfactory answers have been given. (1) Activity

of circulation about the centers of growth at the ends of bone. This he says is inadequate explanation as it should apply to other structures in the body also. (2) Slowing of the blood stream in the capillaries of the spongy bone. If this were the case it would also predispose to all other infections. (3) Exposure to trauma. This again does not hold. Severe injuries never cause the disease. The portion of the bone where the disease starts is not exposed to trauma. (4) The most widely accepted theory is that the arteries are in the epiphyseal area and arteries and a plug embolus is supposed to lodge in these. Ely says this is a plausible theory but one that does not hold other organs in the body having end arteries are not similarly affected, e.g., the brain. This theory would deny the possible synovial origin of the disease. Also an anastomosis is present in the ends of the bones of adults and also in the bones of the carpus and tarsus. Here tuberculosis exists. Tuberculosis exists in the ribs without regard to end arteries. Ely's explanation lies in none of these theories but in the quality of the marrow in the region of joint which is the red or lymphoid marrow. Wherever lymphoid marrow is, here is favorable soil for tubercle bacilli. Synovia is also lymphoid structure so particularly vulnerable to tuberculosis. Under pathology, he says, the fact must be kept prominently in mind that pure tuberculosis remains confined to the lymphoid elements making up the joint mainly the synovial and red marrow. When secondary infections enter in, other structures become involved. Tuberculosis may form in the marrow beneath the articular cartilage. Instances of the joint may be traced in two ways, either by perforating through the cartilage or burrowing along to the edge of the cartilage and so into the joint cavity. A healthy cartilage is a complete barrier to the progress of the disease. Rarely the inflammation may not reach the joint but bursts through the periosteum and thence to the surface. Ely says the deeper layer of the periosteum may be likened to an external layer of marrow and so is open to invasion. This deeper layer is continuous with the synovia, as the superficial with the ligaments. The synovial is not a distinct structure in itself and its limits are hard to define. Purely synovial cases are rare in childhood but fairly frequent in adult life. The bone itself, he says, is never invaded but reacts secondarily to the disease of its contained marrow. The cartilage suffers not from the tuberculosis but from attrition from disease in the adjacent marrow. Ely says he has never been able to identify the layers of flame so often spoken of as being precipitated on the cartilage in these cases. The ligaments are only passive in the action. Speaking of cold abscesses, he says tubercles are only demonstrable in their walls when the abscess becomes secondarily infected.

His symptomatology is the usual one. He brings out the point that muscular atrophy and ankylosis are more prominent in the bony type than in the synovial. Under diagnosis the usual differ

entations are made. The test of withdrawing fluid and injecting into a guinea pig is mentioned. Under prognosis, many things are to be considered and carefully weighed. As regards function it is much better in children than in adults. Treatment by x-rays brings us back again to the pathology. The two things necessary for the function of a joint are synovia and lymphoid marrow. If function be removed these two structures disappear. The disease dies out with them as they are the soil for tuberculosis. Briefly Ely recommends in adults radical, and in children conservative, treatment. Under radical are two operations: resection and amputation. The former where practical, the latter when indicated by the severity of the disease. He can see no advantage in injections of chemicals.

M. S. HAYESON.

Porter: The Treatment of Tuberculous Joints.
Surg. Gynec. & Obst., 9 3, vii, 344.

By *Surg. Gynec. & Obst.*

The paper is a review of the whole subject and a clear statement of the methods of treatment which advanced thought is proving to be best. The opening paragraphs sum up the nature of tuberculous joints and the requirements necessary in their treatment. Porter impresses the three facts that tuberculosis is a self-limited disease, that it always results in deformity and disability and the amount of deformity and disability depends on the extent and duration of the disease. To combat this disease there are three indications for treatment. First, increase resistance; second, put the joint in the best possible position for future usefulness; and third, prevent deformity.

The various methods of treatment are then taken up. Under Mechanical Treatment immobilization is given the chief place, and the fact is impressed that immobilization must be complete until the joint is cured in three to five years. Plaster of Paris is efficient in the early stages. Riser obstructive hyperemia is mentioned as probable aid when thoroughly and efficiently carried out. Surgical treatment for fixation of joint in adults is advised; otherwise, surgery should be avoided in every possible way. Antiseptic injections are considered practically useless. Cold abscesses should be left alone unless they interfere with the treatment of the joint; then they should be opened, evacuated and closed without drainage under aseptic precautions to prevent secondary infection. Sinuses are always the result of secondary infection. They should be treated as little as possible, except that bluntness past is useful where there are no large cavities. Tuberculin in very small doses may be helpful.

F. C. KEMER.

Hoom and Ross: Infections of the Hand. *Ann. Surg.*, Phila., 9 3, viii, 561.

By *Surg., Gynec. & Obst.*

A study of all the cases of infections of the hand treated in the German Hospital Dispensary from

April 1, 1912, to October 19, 1912, ninety cases in all.

The authors followed the treatment advised by Kanavel. They found the method so successful that they have continued to use it.

They divided their cases into

1. Felon 9 cases

Paronychia 4 cases

3. Carbuncles, furuncles, infected blisters and cuts, with other superficial infections. Simple incision, iodine, and wet dressings prevented superficial infections from becoming deep ones in 54 cases.

4. Deep fascial space and tendon sheath infection, twenty-three cases were treated with gratifying results.

The anatomy of the fascial spaces where pus might accumulate, as described by Kanavel, was made use of.

1. The tendon sheaths of middle, index and ring fingers, extending from the distal phalanx to a line joining the ulnar end of the distal palmar crease and the radial end of the proximal palmar crease—Kanavel II c.

The tendon sheath of the flexor digitorum profundus and radial bursa extends from the base of the distal phalanx and when connected to the radial (as it does in 9 out of 10 cases, Poirier) it extends to the lower end of the radius.

3. Tendon sheath of the little finger and the ulnar bursa, when connected (as they are in 50 per cent) extends from distal phalanx to lower end of ulna.

Incisions used in opening fascial spaces and tendon sheaths.

Tendon sheaths along proximal and middle phalanges are opened laterally. If drainage is insufficient lateral incision is made along proximal interphalangeal joint.

The thenar sheath may be split up to a thumb's breadth distal to the anterior annular ligament, to avoid cutting motor nerve and loss of apposition of the thumb.

3. The hypothenar sheath may be cut from base of little finger to the anterior ligament.

4. The ulnar or radial bursa above the wrist: one incision is made one and a half inches above tip of ulnar down to and across flexor surface of ulna. A closed hemostat is thrust across both ulna and radius and pronator quadratus and counter incision made where hemostat shows beneath skin. The latter should be one and a half inches up fore-arm.

3. The middle palmar space, opened by incising into lumbrical canals preferably between middle and ring fingers, may be made one and a half thumb breadths to palm and hemostat thrust beneath the deep flexors into middle palmar space.

6. Middle palmar and thenar space: a hemostat is pushed through incision just described for opening middle palmar space, across the middle metacarpal bone and through the thin partition between this space and the thenar space and on across the adductor transversus muscle to the dorsum between

the first and second metacarpals at about middle of the second metacarpal. Counter incision is made here and drained for eighteen hours.

7. Mid-palmar combined with subaponeurotic incision is made between middle and ring metacarpal where palmar crease crosses, a haemostat is thrust to dorsum and counter incision made.

8. The carpal space, may be opened by one incision on radial side of second metacarpal opposite middle of bone and on level fifth flexor surface. A haemostat is thrust through into the carpal space as far as middle metacarpal and no further.

9. Subaponeurotic space dorsal incision in interosseous spaces.

10. Hypothecar space by simple incision.

The average of the 3 cases as 3 years and time of treatment after onset as 6 days.

Nitrous oxide and oxygen was used in eighteen cases, ether in five. The preliminary bandaging of forearm with gradual release and irrigations were abandoned as unnecessary. 1 case of incision of tendon sheath the hand and fingers were held in extension with wooden splint until danger of prolapse was past. Passive movements were started on the second day. Exploratory incisions proved free of danger. Hot boric acid dressings for three days were followed by dry ones. There was one secondary hemorrhage from a digital artery.

There as perfect restoration of function in eighteen cases, partial in five. Nine had bone or tendon necrosis before treatment.

CONCLUSION

In the sixty-seven cases of simple infection all were saved from becoming severe.

2. The relation of the anatomy to infective processes as employed by Krasnoff affords simple indications for treatment of any infections of these parts.

3. For the twenty-three cases of deep infection the incisions recommended by Krasnoff resulted in the most perfect restoration of function with the least scarring.

4. Disregard of the danger of opening lat uninfected areas caused no harm. Doubtful areas were incised before pus filled areas.

5. Bloodless operative field was unnecessary.

6. Conservative irrigation did no harm, but just as good or better result were obtained by washing off what pus could be brought to the surface by gentle pressure.

7. Passive movements of fingers in a day or so were free of danger and greatly aided after usefulness.

8. Dorsal incisions are rarely needed. Redness and oedema is common and tempts the uncertain practitioner to incise and poultice pus free areas.

9. Hot wet boric dressings, dorsal splint, flat dani rubber drains were used—never tubing.

10. All cases without necrosis of bone or tendon when first seen recovered perfect function.

DONALD GORDON.

FRACTURES AND DISLOCATIONS

Estes, Huntington, Walker Martin and Roberts: Fractures; Preliminary Report of Committee. *T. Am. Surg. Ass.* 93, May. By Surg., Gynec. & Obst.

The scope of this investigation includes the following points:

The value of the treatment of recent closed fractures of the long bones by non-operative methods and the treatment of the same lesion by operative method.

2. The value of operative and non-operative treatment of recent open fractures.

3. The comparative value of these two methods in vicious union and non-union of closed fractures.

4. The use of the X-ray.

5. The percentage of patients able to return to work without disability.

A synopsis of the work done by the Committee of the British Medical Association is given in some detail as follows:

1. That it is possible to obtain a large per cent of good results by either operative or non-operative treatment except in fractures of both bones of the forearm.

2. Operative treatment of fractures requiring special skill and facilities to prevent sepsis (a considerable proportion of failure of operative treatment is due to sepsis).

3. That the mortality of the operative treatment of closed fractures in good hands is negligible. (However to those unable to veil themselves of the proper asepsis, the non-operative method is likely to remain more safe and serviceable.)

The report then discusses the variable factors which must necessarily enter into a statistical study such as local complications with injury to the skin, nerves, muscles and blood vessels.

The paper then discusses the chief methods of non-operative treatment of fractures namely:

Prolonged continuous immobilization of the seat of fracture and adjacent joints by external application of rigid splints or dressings. This may be called the immobilization method.

Immediate gentle massage or friction relaxation of displacing muscles, with almost no fixation, and very early mobilization of the neighboring joints. This is known as the Lucas-Championnière method.

In the United States neither of these methods has recently been employed, but the intermediate method is probably much more frequently adopted in the treatment of fractures.

The report next defined what is meant by non-operative treatment as follows:

Immobilization method.

Mobilization method.

3. Operative method. This consists of incising the soft parts so as to disclose the seat of fracture and permit the application of splints, screws or wire directly to the fragments. (The treatment of mal-union or non-union of fractures is not discussed.)

The report next sets forth the difficulties attending a statistical analysis, mentioning the fact that for such a report to be worth much, surgical attendance during the various fractures, should be equally skilled, the fractures identical in character and situation, and the patients similar in temperament and environment.

X-ray examination should be made, and reduction attempted under anesthesia. After a few days the reduction should be confirmed by X-ray and attention given to active and passive motion of the joints. Prolonged abstinence from weight-bearing must be insisted upon in fractures of the lower limb.

The committee next discusses the following questions:

What should be the routine treatment for the average general practitioner and those unskilled in surgery as specialty?

What should be the routine treatment for the trained surgeon with the usual facilities afforded by a small or cottage hospital?

What should be the routine treatment for the skilled surgeon with adequate hospital facilities?

For all three classes of medical attendants the committee believes that prolonged immobilization with *continuous fixation* by external splints and apparatus should be abandoned because of the unfavorable complications. This method fortunately has long been abandoned by surgical experts.

For the first class, the committee suggests the study of routine method, midway between that of immobilization and mobilization. General anesthesia should nearly always be employed in the diagnosis and reduction of the fracture. X-ray readings should be interpreted only under the direct supervision of a man accustomed to both clinical and radiographic examination of bone lesions.

The maintenance of the reduction of the fragments should be assured by the physician. Traction, splints, or other easily removable and adjustable apparatus, should be so arranged as to allow easy and frequent inspection of the seat of fracture and to permit easy passive, and slight active movements. Molded splints of gauze, gypsum, or other plastic material fit well and fulfill the above requirements. The watchwords for this first class of practitioners are general anesthesia, plastic splints, or traction, frictionless and frequent inspection, early mobility and delay in weight-bearing.

What should be the routine treatment for the trained surgeons restricted by the modest facilities of small cottage hospitals? Operative treatment should be restricted to rebellious fractures. The troublesome fractures that may, with propriety be mentioned as probable candidates for operative treatment are:

(1) Fractures of the surgical neck of the humerus, (2) T-fractures of the lower end of the humerus, (3) fractures of the upper third of the radius, (4) fractures of the upper third of the radius with dislocation of the radial head, (5) fractures of the radius and ulna in the shafts, (6) fractures of the upper third

femur (7) supra-condylar fractures of the femur (8) fractures of the tibia and fibula near the ankle occasionally.

In a general way, it may be said that operative treatment suggests itself as the preferable method in any fractures which cannot be properly reduced and retained after reduction. If operative treatment be selected, the metal plate under absolute asepsis is the final resource, unless open reduction alone, or sutures, nails, or screws be effective. The operation should be immediate—that is, within a week or ten days after the receipt of the injury.

What should be the routine treatment for the skilled surgical experts with adequate hospital facilities? To this class it makes little difference whether the non-operative or operative plan is followed. It is probable, though not certain, that consolidation of fracture takes place little more slowly after direct fixation of the fragments with a metal plate than in well reduced fractures under non-operative treatment.

There are certain investigations which the committee desires the fellows of the association to pursue during the next year.

The effect of immediate efficient reduction under general anesthesia.

Mobilization with light friction. (Lucas-Championnière method.)

3. Molded splints not circular encasements.

4. Increasing the full time of coalescence of consolidation in fractures of the weight-bearing bones.

5. Finding standards for the determination of the probable period of absence from work demanded by treatment, and of the degree of permanent, partial, total disability likely to accrue from particular fractures.

6. The value of straight dorsal splints or the plastic palmar splints in fractures of the lower end of the radius.

7. The value of abduction in certain fractures of the upper end of the humerus.

8. The value of heavy weight traction. (Vock.)

9. The use of the Thomas knee splint in fractures of the shaft of the femur (Jones.)

a. The use of an abduction frame in fractures of the upper third of the femur (Jones.)

1. The value of forced abduction in fractures of the femoral neck. (Whitman.)

The use of double traction in fractures of the femoral neck. (Maxwell.) FREDERICK G. DYER.

MILLER: Primary Traumatic Dorsal Complete Radiocarpal Dislocation. *Surg. Gynec. & Obst.*, 1914, xvi, 400. By Serg., Gynec. & Obst.

There are fewer than forty reported cases of complete dorsal dislocation without fracture. Classifications are not uniform, and often reports are incomplete. Dupuytren denied even the existence of this lesion, and gave as his experience that these supposed dislocations of the wrist turn out to be fractures. The injury occurs most often in young

male adults — those exposed to acute traumas. Only one case has been reported above 30 years of age.

T show the screwlike action in its production Rydygier and Cameron each recite an instance in which the elbow was fixed against a wall with the hand dorsally flexed against a moving wagon. Reports in which the hand was bent *dorsally* have been made by Bays, Cooper and others. The production of exactly the same lesion due to *valer flexio* has been reported by von Brunn and Roland. Most displacements occur without break in the integument although this has been noted by Coteau, Korte, and others. This is frequently followed by infection. In few instances this lesion was diagnosed post-mortem or confirmed by operation.

In the differential diagnosis the following must be excluded (1) Barton's fracture (2) separation of radial epiphysis (3) luxation of carpus (4) the carpus upon the metacarpal (5) fractures of forearm, (6) Colles's fracture.

Mechanically the most favorable position obtains with the hand dorsally flexed and fingers partly cotracted — clawlike. The volar tendons act as skid to elevate the carpus out of the radial socket. Spasmodic cotraction of forearm muscles maintains the deformity. Displacement is exactly at the radiocarpal joint the deformity is angular the prominence abrupt. The hand assumes plane parallel but posterior to the forearm. Reduction, if not simple, should excite suspicion of some complication. No mention is made of permanent disability.

The two reports case as follows. On August 9, 9, young man age 30, while attempting to start the motor of a large aut mobil, felt sharp pain in the region of his right wrist. He was pushing down upon the starting crank. Examination showed a backward deformity at the radiocarpal joint. Styloid process of both radius and ulna were normally located. No crepitus, but pain was elicited on motion. Reduction was easily obtained by traction. An excellent result was secured.

SURGERY OF THE BONES, JOINTS, ETC.

McGinnan. The Open Treatment of Fracture of the Femur. *Surg., Gynec. & Obs.*, 19 3, xvi, 439.
By Surg., Gynec. & Obs.

The author points out that the union of broken bone is a vital process, governed by the general laws of wound healing and that good results in open treatment do not depend on the endurance and resistance of the plates and screws, but rather on placing the limb in the position that relaxes the muscle and inclines the fractured portion nearest normal line. The plate is an internal splint one whose application directly the bone makes perfect position possible, but whose action is required only for the length of time necessary for the formation of firm callus. Tension strong enough to break the Harnsman silver plate, or great enough to loosen

the screws, will prevent bony union although perfect approximation is obtained.

The technique is described in detail. The method of securing traction is the only original contribution claimed. This is done by passing a long drill through the femur above the condyles and making traction on this by means of a rope of gauze passed across the front of the thigh. The advantages of this method are rapid action with employment of minimum force, consequently lessened shock. In addition the popliteal space is not subjected to pressure. In the after care of the patient thyroid extract is administered daily from the third to the sixth week to influence ossification at the point of union.

Frattin. A New Application of Free Osteoplastic Operation in Fixation of Paralytic Foot (Eine neue Anwendung der freien Osteoplastik in der Fixation des paralytischen Fusses). *Zentralbl. f. Chir.* 9 3, xi, 30.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author has carried out an osteoplastic operation in the fixation of the ankle of a fifteen year old girl, with old spinal infantile paralysis, as follows. After a lateral incision, an osteoperiosteal lamella of sufficient length and maximal thickness of 5 cm. was removed with a chisel from the lower part of the fibula. This was then placed between the previously prepared surfaces of the external malleolus and the calcaneus, and was here fastened at both ends with few silk stitches through the periosteum and the superficial layers of the bone. The operation was carried still further by the freshening of the opposed joint surfaces of the os calcis and os naviculare, and by an approximation with strong silk by means of through and through suture. Moreover the tendons of the fibular anticus and fibular posticus were fixed in the region of the talocrural joint by simple suture in the strongest parts of their previously opened sheaths. Seven months after the operation the results, so far as appearance and function were concerned, were good.

BRAMMER.

Schulze. The Treatment of Fracture of the Patella; New Method of Repairing the Extensor Muscles (Die Behandlung der Patellafraktur eine neue Methode zur Rekonstruktion des Streckapparates). *Zeich. f. orthop. Chir.* 19 3, xxi, 507.
By Zentralbl. f. d. ges. Chir. u. f. Grenzgeb.

A separation of the patellar fragment can only take place if there is a simultaneous rupture of the extensor muscles at the top of the fracture. To restore the separated parts to position, the continuity of the muscles must also be restored. This is accomplished by means of the *forceps technique*. The fragments are seized with *Murrex* forceps and pressed toward one another in such a way that the surfaces which are normally turned toward the femur lie almost against each other. With two other *Murrex* forceps the lateral and median muscles of the patella are seized, stretched, and sown with

caught. Then, after removal of the forceps, the fragments are drawn back into their normal position and fastened with periosteal suture. Bony healing takes place in this position. The skin is sutured and drainage maintained for twenty-four hours. On the tenth day the skin sutures are removed, and the twelfth to the fifteenth day medico-mechanical treatment is started. This gives better results than massage. In old or refractory cases, the connective tissue scar is excised and, under some circumstances, the fragments are extensively resected. Here, too, hypertension and suture of the contractile tissues is of great importance.

In nine cases Schulze obtained good results by this method. Of those who were insured against accident only one received 30 per cent of his insurance, another only one year's temporary annuity. The oldest patient (6 years) left the hospital after twenty-eight days with the knee-function completely restored.

WITTEK.

Yon Wresniowski: Operation and Open Method of Treatment in Perianth Fistulous Tuberculosis of the Joints (Operation und offene Behandlungsmethode der eitrigen Gelenktuberkulose). *Deutscher chir. Kong.* 9 2.
By Zentralbl. f. d. ges. Chir. u. t. Grenzgeb.

The joint should be opened by a long transverse incision beginning at the anterior surface and, if necessary for free exposure bilateral longitudinal incisions should be supplemented. The joint is then opened by flexion to permit of a thorough inspection of all the parts. The tuberculous foci are excised from the bones and the soft parts. Then all cavities are thoroughly packed with mull and joint extended and immobilized in proper position, avoiding sutures of any description. At every redressing the joint is opened, the gauze removed, and all cavities carefully examined for new growths, which are excised; the packing is then replaced by fresh sterile gauze and the immobilization attended to as described supra. The more the granulation tissue forms at the base of the wounds, the greater the caution to be observed in the flexion of the joint.

The advantages of this method are: (1) The frequent possibility of making amputation unnecessary in old advanced cases of suppurative tuberculosis of the joints. (2) Prevention of the typical retraction and shortening of an extremity. (3) The possibility of a thorough inspection of the entire diseased area at every redressing and the immediate excision of any newly formed tuberculous processes. (4) The possibility in nearly all cases, of healing the wound without the formation of fistula that so frequently resolves itself into an annoyingly prolonged and offensive after-treatment. (5) A considerable reduction of pain at the redressings.

The disadvantages are: (1) Prolonged treatment before healing and cicatrization are completed, from 3 to 6 months. (2) The final result in the majority of cases is complete ankylosis.

This method the author has employed, since

90 in the shoulder elbow knee, ankle Chopart, and Lisfranc joints and has had permanent results in over 30 per cent of the cases. I. e., there were no fistulae and no relapses.

Todd: The End Result of Excision of the Elbow for Tuberculosis. *Ann. Surg. Phila.* 9 2, 1894, 90.
By Surg., Gynec. & Obst.

The difference in opinions held by surgeons as to the ultimate state of or the changes in a joint necessary for a cure of tuberculosis is the excuse offered by Todd for a short contribution on this particular joint disease.

The author's report of a cured tuberculous elbow joint without destruction of joint function is not, as he states, in refutation of Ely's contention that ankylosis is the essential factor, but merely to show that a cure of a tuberculous joint may be effected with preservation of joint function.

Todd dissected the body of a female aged 30 years, whose death was due to an abscess of the right frontal area of the brain. There was an active tubercular lesion of the right tarsus and a like lesion of the frontal bone on the right side. The right elbow joint, previously the seat of tuberculosis, and on which a partial excision had been done, showed no evidence of the disease. Although the olecranon and the entire articular surface of the humerus had been entirely removed, the dissection disclosed joint cavity lined with synovial membrane, filled with synovial fluid.

Histologic study by Lorrain Smith of the joint structures further demonstrated the actual presence of synovial membrane, and the absence of tubercular disease. Todd is of the opinion that a cure of tuberculous joint disease does not necessarily call for an obliteration of the joint cavity.

WM. FULLER.

König: Clinical and Experimental Observations on Ivory Transplantation (Klinische und experimentelle Beobachtungen über Elfenbeinimplantation). *Deutscher chir. Kong.* 9 2.
By Zentralbl. f. d. ges. Chir. u. t. Grenzgeb.

In reference to former successful implantations König reports on the method of healing and technique. With good asepsis, bone and soft parts enter into intimate union with the ivory. It is gradually replaced by bone. The behavior of the soft parts is particularly important. If, as frequently happens, extravasation of blood leads to a fistulous perforation, surrounding the ivory with a secondary muscle transplantation will be sufficient to close the fistula. This of course is not done in infected cases. The ivory must be implanted firmly in the bone, and closely surrounded with the soft parts. The larger joints offer considerable difficulties in such cases the muscles may be sutured directly to a prothesis in the ivory.

The author adds another successful case to those previously reported. The case reported in 1902 in which the lower jaw was implanted has remained

cured. The last case was an ivory implantation into the elbow joint (the trochlea with a piece of humerus the width of hand being removed). The patient has been using it for year. He moves the joint, is free from pain, can lift with the arm and no fistula remains. Kossy again recommends ivory implantation in fractures and in bony defects, including joints.

Röpke. Transplantation of Fat in Joint Surgery
(Über die Verwendung transplantierten Fetts in der Gelenkchirurgie). *Deutscher chir Kong* 93.
By Zentralbl. f. d. ges. Chir u. i. Grenzgeb.

Since his previous report in '09 the author has been working clinically and experimentally on this subject. Clinical observation has shown that flaps of fat as large as the palm of the hand may be used in joints without any retardation of the healing of the wound. The special functional demands made on the fat flaps in the joint causes a different result in the regenerative process than if the fat had been transplanted into subcutaneous tissue because there is greater new formation of connective tissue both on the heavily weighted and moving ends of the bone. But in places where the fat is able to permit in spite of the functional demands made on it, after some degeneration at first, normal fat tissue is found again after about 4 weeks. A further report will be given of the finer histological changes. Röpke operated on thirteen joints and interposed free flaps of fat. They were finger, wrist, elbow, shoulder, hip and knee joints which came for treatment of synovitis and fibrous ankylosis from old dislocations. He used Kocher's incision in the elbow-joint. There was primary healing in all cases and the functional results were good. He used free transplantation even in the operative treatment of joint tuberculosis and here as in the other cases, obtained healing by first intention and good functional results. At the hip-joint, after removal of the diseased capsule, cleaning out the acetabulum and excision of the diseased head, the rest of the neck was moulded the acetabulum filled with a large flap of fat and here as in all other cases, the joint closed up and placed at rest in plaster cast for three weeks.

After that active movements were begun which were gradually combined with the orthopaedic methods. Very vigorous movements are not to be undertaken the first few weeks, in order to avoid hemorrhage by tearing loose the flaps and thus interrupt active motion. In the knee-joint two lateral incisions, convex-posteriorly and T-shaped incision in the fascia are made. The lateral ligaments are separated from the epicondyles of the femur, the diseased capsule removed, the joint surface of the patella and the femur and the condyles of the tibia excised in crescent shape. An intercondylar fossa is then made in the femur the tibial condyles hollowed out and the eminentia capitata restored, fat flap as large as the palm of the hand is drawn over the femur another of equal size is fixed by sutures in the upper concavity the lateral ligaments sutured

and the joint closed. After three weeks in a plaster cast, active movements are begun with massage of the very much atrophied extensor muscles. The position of the leg is excellent and since the extensors have not been injured in any way by the operation, eight weeks afterward the leg can be completely extended and motion take place through an angle of 45°. In a case of elbow joint tuberculosis with old cicatrices from fistula, the interposition of fat proved a very good method. Röpke, on the ground of his clinical and experimental investigations, recommends transplanted fat flaps as excellent material for interposition in joint surgery even in cases where tubercle is present.

Leiser. Re-transplantation of Joint Bones
Arthro-autoplasty (Rückverpflanzung von Gelenkknien Gelenkknien). *Zentralbl. f. Chir* 93.
21, 503 By Zentralbl. f. d. ges. Chir u. i. Grenzgeb.

In fixation fractures which were formerly treated by removing all dislocated pieces of bone and those completely separated from their surrounding tissues, the author recommends utoplastic implantation of such bones, reconstructing the normal anatomical relations as well as possible. The growth of such implantations is made difficult because the fragments are not placed in normal tissues. In the recent cases, the tissues are poorly nourished on account of the hemorrhages and contusions in old cases, extensive communications interfered with the blood supply of the segments implanted. The attempt should always be made, as in the worst cases (necrosis of the implanted parts) the result will be as good as the immediate removal of such parts would produce.

The author operated two such cases to date. The first case was an elbow joint fracture and dislocation of two months standing. The completely separated fragment was restored to its normal location and held in place by a peg made of bone. The result was good functionally. The second case was a luxation and fracture of the humerus. The line of the fracture extended obliquely below the surgical neck. The completely separated fragment was fastened to its normal location on the humerus by silver wire and then the rotation was replaced. The result promises to be good, though the after-treatment is not completed.

VON TAPPEINER

Allison. The Results Obtained by Implantation of Silk Tendons in the Residual Paralysis of Poliomyelitis. *Am. J. Orthop. Surg.* 93, 319.
By Surg. Gynec. & Obst.

The author discusses the operations used to produce stability in flail joints. Arthrodesis has lost its vogue, due to the poor results that have followed its use in children. Lange and Lorenz are both of the opinion that it should not be done before the patient has reached the twentieth year then, also the joint function if the articulation to be stiffened should be carefully considered. Considerable success has followed the use of silk check ligaments.

ORTHOPEDIC SURGERY

DISEASES AND DEFORMITIES OF THE SPINE

Murphy Impacted Fracture of the Body of the First Lumbar Vertebra; Laminectomy; Rapid Recovery Following Decompression of the Cord. *Surgical Cases of John B. Murphy*, 3rd, II, No. 2. By Surg., Gynec. & Obst.

While walking in his sleep a man of 35 fell distance of about 3 feet, striking on his buttocks. He was unable to get up on account of pain in back was able to move his legs, but it hurt him to do so. When put back to bed his doctor found a prominence of the last dorsal and first lumbar vertebrae with ecchymosis. Examination showed no paralysis but loss of sensation over buttocks, perineum, scrotum and back of thighs, as far as knees no loss of sensation in front of thigh no girdle pain and no annular paralysis. Since accident he had to be catheterized thrice daily. For the past week or two control over bladder seemed to be returning. For the first four or five days had great trouble in getting his bowels to move since then had had in voluntary evacuations. For past week was getting little control over sphincter. Examination revealed a prominence of the eleventh and twelfth dorsal and first lumbar spines. N. paralysis of muscles of thighs, but calf muscles felt flabby. Tactile sensation absent over gluteal and diminished on back of thighs. Superficial reflexes present. Left knee jerk exaggerated right slow and scarcely perceptible.

Operation showed a pronounced luxation forward of the first lumbar vertebra; the angulation was so sharp and the cord compressed so much it seemed strange there was no complete paralysis. The spinous process and lamina were removed from the first lumbar vertebra so the cord was perfectly free behind the zone of compression. The muscles were sutured across the spinal column with catgut, and outside this the lumbar fascia sutured, also with catgut making an osseous approximation. The dura was not opened. Patient left hospital a third five weeks, wearing leather jacket. Ten months later he returned for examination. He had regained complete control of his sphincters and of all muscle power except that he could not raise himself on his toes. He returned again after a more month. He could not raise himself on his toes, but about five months after the operation he had entirely recovered from his injury still wearing the leather jacket. L. J. MITCHELL.

Hatch The Use of Corrective Plaster Jackets in the Treatment of Scoliosis. *New Orleans M. B. J.* 9, 3, 1917, 5. By Surg., Gynec. & Obst.

Scoliosis is considered from the standpoint of the general practitioner to whom suggestions regarding early diagnosis and proper disposition of patients are given.

Technique is considered in part two cases are reported and four illustrations appear.

The value of preliminary exercises over a period of a month before corrective plaster jackets are used is advised. The jacket is put on in suspension, first getting the patient in as good a sitting posture as possible on an adjustable seat. Rotation is corrected by hands pulling in alternate directions, with as much force as the patient can stand. The author claims good results if sufficient time and attention are given these cases. H. B. THOMAS.

Albee An Experimental Study of Bone Growth and the Spinal Bone Transplant. *J. Am. M. Ass.* 9, 3, 1917, 144. By Surg., Gynec. & Obst.

Albee presents in this paper deductions and conclusions based upon experimental operations on thirteen dogs, reported in full, in conjunction with a clinical experience gained from 30 bone-grafting operations on the human subject. He concerns himself chiefly with the operation of transplanting a wedge-shaped strip of tibia into trough formed by splitting the spinous processes, in Pott's disease. The article is illustrated with photographs of specimens showing end results.

According to Albee a bone transplant may act efficiently either by healing solidly in place and remaining in toto, or by serving as an osteoconductive scaffold and becoming absorbed. If the graft is to live, he says, the blood supply contacts must be of favorable character and unimpairedly distributed along its whole extent. It apparently acts always as a stimulant to osteogenesis on the part of the bone into which it is transplanted. Periosteum and marrow substance on the bone graft may serve an important rôle in aiding to establish an early and abundant supply but transplants without periosteum give good results. In the dog the spinal graft loses its identity at about the fourth month, but bony bridge remains. Albee states that he was unable to produce a bony bridge between vertebrae experimentally by the method of breaking down the spinous processes one upon the other (Hibbs) or by the insertion of periosteum.

The author had successful experimental results with grafts which had been kept in normal saline at low temperature for as long as a week, and portions of transplant became united to the recipient bone even in the presence of active sepsis. Grafts from another species did not take. He considers that its germ-resisting property and its early adhesion, by bony growth, to bone with which it is in contact, makes the bone graft superior to metal internal splints, which favor sepsis and induce bony absorption.

The conflict between the ideas of MacEwen and commonly accepted opinions as to the osteogenic function of periosteum Albee explains by stating

light of. Six were five to seven years. Two only
Archibald divided, four had leucocytosis plus removal
of wedge of bone from outside of foot. Two were
cured by under treatment. Two fourteen year
old cases had Archibald cut and cured, one wearing
plaster. One twenty-two year old case of moderate
deformity had great force used upon it by the
bloodless method. Fitzgibbon says, though the
result is perfect, he would do an open operation
next time. Concluding, he says, there are no
important cases of congenital equinovarus.

Rever. Court Varril Some Observations on This
Condition with Especial Reference to the
Question of Spontaneous Recovery from This
Deformity Boston M 65 J 93 dived. 403
By Surg. Lynch & Obit.

[illegible]

1. Kinetic data are a frequent and constant condition of kinetic and thermodynamic studies and are observed to a great extent in kinetic studies in polymer science.

3. The coalition apparently needs no treatment.
4. The correction of a co-existing condition of kidney stones or bow-legs may hasten the process of recovery from coal water. This statement is made without reference to alcohol.

5- I will cause there to be a tendency to good deeds and recovery and righteousness and I will give you the power to do them from the Holy Spirit who dwells in you.

THE SHIN AND APPENDAGES

February The Correction of Confidential Rep-

TRANSFORMATIONS AND DISCRETE

ALBERT BERNARDI.

that the outer layer of peritoneum is largely composed of connective tissue, and that the middle layer consists of smooth muscle. The inner layer is in contact with the surface of the viscera, and is reflected back on itself to form the greater omentum. The peritoneum is a serous membrane, and is composed of two layers, the parietal and visceral peritoneum. The parietal peritoneum lines the abdominal cavity, and the visceral peritoneum covers the organs. The space between the two layers is the peritoneal cavity, which contains a small amount of fluid. The peritoneum is a continuous layer, and is reflected back on itself to form the greater omentum. The peritoneum is a serous membrane, and is composed of two layers, the parietal and visceral peritoneum. The parietal peritoneum lines the abdominal cavity, and the visceral peritoneum covers the organs. The space between the two layers is the peritoneal cavity, which contains a small amount of fluid.

Edenberry says that in his series of thirty-six cases, twenty had been previously operated without permanent correction, which proves the treatment in many cases is faulty. The cause of failure

the first, lack of overconcentration, accident, reduction of the support for too short a time. The person time is until the child is walking for at least a year after that correction. Treatment is best begun as once after birth and can often be accompanied by series of casts extending to above knee and without operation. Correct values and education that cut Achilles if need be. He believes that in severe cases to babies and to all other good forable complete correction under anesthesia should be done, working with the foot until it is happy before applying plaster. He says the idea that plaster operation can last

H prefer to remove a
 of living a foot padlocked or become
 of the world and be
 of the world and be

proceeds. I the fully-accrued nine dis-
charging without support remaining connected
do for periods ranging from two months to
three years. There will be no support. The above
taxable person (applicant) must be

Eight were three 1 digitised models, all corrected under hardware economy. 1 Achilles only five were cured three all were supports. Seven were three are card, two are plates and were north.

ing and tends to relieve the other has been lost

Chart Contribution to the Study of Free Transplantation of Faeces in the Human Organism (Lio Reding as the basis of the Bulletin der transplantierten Faeces im menschlichen Organismus)

The author had an opportunity to examine microscopically very carefully a piece of black

[illegible]

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that the outer layer of periosteum is largely connective tissue, and that the active osteogenic cells are in intimate contact with the surface of the bone. Dissection with the instrument is not likely to be deep enough to include this osteogenic layer. He advises accordingly the use of a sharp periosteum elevator in bone resection.

ALBERT EISENBERG

MALFORMATIONS AND DEFORMITIES

Eikenbury: The Correction of Congenital Equinovarus. *Northwest Med.*, 9:3, 87.

By Surg. Gynec. & Obst.

Eikenbury says that in his series of thirty-six cases, twenty had been previously operated without permanent correction, which proves the treatment in many cases is faulty. The causes of failure are first, lack of overcorrection second, retention of the support for too short a time. The proper time is until the child is walking for at least a year after final correction. Treatment is best begun at once after birth and can often be accomplished by a series of casts extending to above knee and without operation. Correct varus and adduction first cut Achilles if need be. He believes that in severe cases in babies and in all after one year, forcible complete correction under anesthetic should be done, working with the foot until it is floppy before applying plaster. If says the idea that Phelps operation corrects more quickly is wrong, no support for long time is necessary and besides it has the disadvantage of leaving a foot predisposed to become flatfoot.

He prefers to remove a wedge of bone from the outside of foot, thinking it much superior to Phelps' procedure. In the thirty-six cases, nine were discharged without supports, remaining corrected now for periods ranging from three months to three years. Three still wear supports. The above twelve began treatment under five weeks of age, eight were three to eighteen months, all corrected under anesthesia tenotomy of Achilles only five were cured three still wear supports. Seven were two to five years. Overcorrection in one operation. Three are cured, two wear plaster one wears nothing and tends to relapse, the other has been lost

sight of. Six were five to eleven years. Two only Achilles divided, four had tenotomy plus removal of wedge of bone from outside of foot. Two were cured four under treatment. Two fourteen year old cases had Achilles cut one cured, one wearing plaster. One twenty-two year old case of moderate deformity had great force used upon it by the bloodless method. Eikenbury says, though the result is perfect, he would do an open operation next time. Concluding, he says, there are no incurable cases of congenital equinovarus.

C. A. STONE.

Sever: Coxa Vara; Some Observations on This Condition with Especial Reference to the Question of Spontaneous Recovery from This Deformity. *Boston M. & S. J.* 9:3, April, 1905.

By Surg. Gynec. & Obst.

Sever cites nine cases of coxa vara accompanying knock-knees or bow legs in which rachitis is the underlying cause. With the exception of one case, treatment was resorted to only for the knock knees and bow-legs. The result obtained for the coxa vara condition was equally as good as in the one case receiving the usual treatment. It seems that as the coxa vara tends to return to normal, any restoration of the lower leg toward a normal weight bearing line would also have a favorable influence in hastening the above tendency.

The author's conclusions are

Rachitic coxa vara is a frequent and concomitant condition of knock-knees and bow-legs, but may exist independently.

In this series of cases it was observed to a great or degree in knock-knees than in bow-legs.

3. The condition apparently needs no treatment.

4. The correction of a co-existing condition of knock-knees or bow legs may hasten the process of recovery from coxa vara. This statement is made without evidence of support.

5. In all cases there is a tendency to spontaneous recovery and a restoration toward the normal angle of the neck of the femur without treatment, with no cessation from use or weight bearing.

6. There is probably very little or no permanent disability in the average case.

C. M. JACOB.

DISEASES AND SURGERY OF THE SKIN AND APPENDAGES

Chiari: Contribution to the Study of Free Transplantation of Fascia to the Human Organism (Um Befugnis der Kenntnis des Verhältnisses freier transplanterter Fascien im menschlichen Organismus). *Wien klin. Wochenschr.* 19:3, April, 1907.

By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

The author had an opportunity to examine microscopically very carefully a piece of fascia, taken from the thigh, 8 cm. in diameter which had been transplanted to cover a defect in the dura after

extirpation of a tumor and had to be removed after sixty days because of a recurrence. The piece of fascia showed areas of severe injury in the form of hemorrhages, swelling and liquefaction of some of the fibre bundles, large areas, however, remained alive, which was shown by the good staining ability of the tissues and the nuclei, as well as by definite signs of circulation formation. The nourishment of the transplant was provided especially by granulation tissue which had spread from the edge over the same.

WORTHMAN.

MISCELLANEOUS

CLINICAL ENTITIES—TUMORS, ULCERS, ABSCESSES, ETC.

Hoffman The Menace of Cancer *T. Am. Gynec. Ass., 9 J. May*
By Surg. Gynec. & Obst.

On the basis of trustworthy official data, it was said to estimate the annual mortality from cancer in the United States as 75,000 and in the civilized world 1 half million. The cancer death rate in the United States was increasing at the rate of 35 per cent per annum and corresponding increase was taking place practically throughout the civilized world. The average age of death from cancer in all forms was 59 years, or respectively 60.4 per cent years for males and 58 per cent for females. Cancer was largely disease of adult life and the total mortality from cancer 60.7 per cent were deaths of ages 14 and over. The male cancer death rate in the United States, ages 3 and over had increased 50 per cent during the last decade and the female cancer death rate had increased 3 per cent. On the basis of past experience, the distribution of cancer deaths in the United States during 1913 would be about as follows: Cancer of the stomach and liver 30, 5 cancer of the female generative organs 35, cancer of the rectum, intestines and peritoneum 9,603 cancer of the breast, 6,577 cancer of the mouth, tongue, etc. 350 cancer of the skin, 670 and cancers of other organs and parts, 635.

These statistics fully sustained the conclusion that cancer as most serious menace to the American people and that the tendency was toward an increase in the mortality regardless of the cancer deaths prevented by early surgical operation. The cancer death rate of large American cities had increased from 3 per one hundred thousand population during the five years ending 1908 to 8.6 per cent during the five years ending with 1913. The cancer death rate of the city of New York had increased from 37.5 per one hundred thousand of population during the three years ending with 1907 to 84.4 during the five years ending 1913. The corresponding increase in the cancer death rate of Philadelphia during the same period of time had been from 43.1 to 86.3 per cent. At ages 60 and over in the state of Massachusetts, the mortality from cancer of the external organs for males had increased from a rate of 65 during the five years ending 1908 to 100. The corresponding increase for females aged 60 and over had been from 85.6 per cent to 133 per cent. Aside from the observed increase in the mortality from cancer, there had been an increase in the mortality from biliary calculi in the registration area of the United States from 1.5 per cent per one hundred thousand of population in 1900 to 3.0 per cent in 1913. All the facts available for the different sections of the country

and the principal cities throughout the world sustained the conclusion without qualification, that the menace of cancer was much more serious at the present time than it had been in the past.

The only hope for the patient lay in the early possible recognition of the symptoms of cancer when operative treatment was comparatively easy matter.

Walker and Whittingham The Effect of General Contraction of the Peripheral Blood Vessels upon Mouse Cancer. *Lancet, Lond., 9 J. May*
By Surg., Gynec. & Obst.

The liquefaction and final disappearance of tumors in mice are obtained by the intravenous injection of various highly toxic materials. The theory of the treatment is based upon Ehrlich's statement that tumor cells possess much greater avidity for oxygen and nourishment than do the cells of normal tissue. In the case of all these experiments the useful dose of the compound is nearly as great as that which kills the animal outright, and must be injected directly into the circulation. The immediate effect of the compounds injected by Neuberg and his collaborators is described as contraction of the blood vessels of the body and dilatation of those of the tumor. The dilatation and contraction of blood vessels is controlled by the nerves, and hence it is possible that when these poisonous substances are introduced into the circulation the immediate result is the contraction of the blood vessels generally excepting, of course, those in the tumors, through the action of the compounds upon the nervous system. The blood vessels and spaces in the tumor owing to the increased pressure produced by the contraction of the vessels of the body are passively dilated. The poisonous compounds, having been introduced directly into the blood stream, could thus act far more upon the tumor cells than upon those in the body generally, and as they are described as being very unstable they could tend to break down before the blood vessels of the body again dilated.

The authors injected mice, in which tumors had been produced by grafting, with various substances which produce rise in the blood pressure and contraction of the vessels in the body generally. The substances with which the best results were obtained were ergotin, preparation made from ergot, and pituitary extract. The authors give in detail their results from the use of these two substances and think that in view of their work, these two substances produced somewhat similar results to those used by Wassermann and by Neuberg and his collaborators. In the case of the pituitary extract, where the dose was larger and more injections were given, necrosis was induced as well as hemorrhage, and the growth of the tumor was appar-

ently checked in a large proportion of cases. But there is no suggestion that there was any specific action upon the cancer cells. They think that the results obtained with the other substances used by Wassermann and Neuberg and his collaborators are also mechanical, although, as the substances they used were highly toxic, their results, in the case of the animals that survived the treatment, were more perfect. It seems possible that something might be done towards producing an effect upon cancer cells by injecting substances which will tend to kill the cells, in combination with something which will contract the blood-vessels, such as pituitary extract and ergotin.

DOMINIC C. BALFOUR.

Rous: False Transitions Between Normal and Cancerous Epithelium. *J. Exp. Med.*, 93, xvii, 494. By Surg., Gynec. & Obst.

The question as to whether there is a true transition between normal and cancer cells has been much debated on account of its bearing on the theory that cancer originates directly from the normal cells among which it arises, certain investigators holding that this does occur. Rous presents a number of photo-micrographs of sections showing apparent union and transition. The sections were taken from rats in which cancer tissue had been implanted exposed surfaces made by removing disc of skin, and show how deceptive these transition pictures may be.

Rous does not affirm or deny the existence of transition, but presents the article and photographs merely for the purpose of drawing attention to the greater caution necessary in interpreting the histological appearances of transition between normal and carcinomatous epithelium. JAMES F. CROWCUTT.

Tyler: A Transplantable New Growth of the Fowl Producing Cartilage and Bone. *J. Exp. Med.*, 20, 3, xvii, 466. By Surg., Gynec. & Obst.

Tyler has successfully transplanted osteochondrosarcoma of the common fowl, designated as Chicken Tumor VII. He has transplanted it to seven successive series of hosts. The original growth contained bone and cartilage and was attached to the sternal keel of an otherwise healthy chicken. In the growths derived from its transplantation cartilage is regularly laid down, followed by bone if the host lives long enough. The prechondral tissue consists of spindle-shaped or multipolar cells of the fibroblastic type. The histological character and behavior of this prechondral tissue shows it to be sarcomatous, and this is further proven by the occurrence of metastases in one case.

The tumor could not be transferred to pigeons, but grew readily in two alien breeds of chickens. Re-inoculation experiments suggest the occurrence of natural individual immunity, and of certain degree of acquired resistance. The tumor has been transferred by means of the filtrate from a Berkeley filter.

JAMES F. CROWCUTT.

Davis: The Transplantation of Rib Cartilage into Pedunculated Skin Flaps: An Experimental Study. *Bull. Johns Hopkins Hosp.*, 9, 3, xvii, 6. By Surg., Gynec. & Obst.

In the correction of mutilations or defects, such as those which involve the ears or nose, it is often requisite to use flaps of tissue with skin on both sides. These flaps can be secured in many ways, but Davis believes the factor of chief importance is to provide a framework to support the flap which will secure the desired contour and at the same time prevent shrinkage. The ideal substance for this purpose is readily seen to be a material which will not act as a foreign body, one which is easily obtainable, is rigid enough for the purpose and at the same time can be shaped as desired. In seeking for some suitable tissue in the body which would fulfill these requirements, the author was led to undertake the experiments with costal cartilage which are outlined in this article.

Twenty-four experiments were carried out on fifteen dogs. The cartilage was obtained from the cartilaginous ribs. The perichondrium was not disturbed except when shaping was done. The cartilage was either imbedded in a thin layer of subcutaneous fat, or was placed in a pocket burrowed in the subcutaneous tissue itself or was surrounded by the skin after the subcutaneous tissue had been removed. It varied the location and shape of the cartilage in the different flaps. In some it was placed parallel to the base of the flap and in others vertically and in different parts of the flap. In still others it was placed diagonally across the flap. The pieces of cartilage used varied in length from $\frac{1}{4}$ to 7 cm. They were allowed to remain in the flaps from 7 to 30 days. Microscopic examination at the end of this period showed in every instance that the squarely cut ends of the transplanted cartilage had become slightly rounded. The healing was reactionless and the cartilage did not act as foreign body. The measurements of the cartilage when removed from the flap differed very little, if at all, from those taken at the time of transplantation.

Microscopic examination showed the transplanted cartilage surrounded by loose connective tissue zone containing blood vessels, which were more or less abundant according to the length of time after transplantation. The cartilage cells appeared normal and there were no signs of degeneration or absorption.

From the results which Davis has obtained in these experiments and from clinical experience he feels sure that the transplantation of rib cartilage into skin flaps is a safe and promising procedure. It suggests that cartilage can be used with advantage in otoplasty in the restorative operations made necessary by traumatism and disease. In microtia also much can be done, by the transference of a flap thus supported, in improving the condition due to arrested development. In rhinoplasty the cartilage support can be placed in a double faced skin flap from a distant part when it is formed, or can be

inserted after the flap is in its new position. It is especially advantageous in the correction of saddle nose.

As to the fate of the transplanted cartilage in these experiments as far as can be seen the cartilage lives, is properly nourished and does not act as a foreign body. There has been no increase in length in any of the pieces transplanted. There is practically no absorption and there are no signs of degeneration, either macroscopically or microscopically. The cartilage shrinks very little if any up to four months, which is the longest period in the series and it seems reasonable to believe that it will continue to be nourished and will live and act as support as long as needed. **GEORGE E. BARNES**

SERA, VACCINES, AND FERMENTS

Kocher Further Observations on the Treatment of Tetanus with Magnesium Sulphate (*Wieners Beobachtungen über die Heilung des Tetanus mit Magnesiumsulfat*). *Cor Blf Schweiz. Anz.* 93, 244, 97

By Zentralbl. f. d. ges. Chir. L. Gernsperg.

This paper is a detailed communication regarding three further severe cases of tetanus which are treated by intradural injection of magnesium sulphate. Two of the cases recovered.

The third was the case of a 6 and a half year old child in Abderhalden's laboratory — an infant who showed an extraordinarily favorable nutritive substratum for the tetanus bacillus after an eight-day incubation. As a result there appeared rapid development of tetanus in its most virulent form in which the muscles of the head, neck and thorax were especially involved in cramps. As an associated use of death, the autopsy showed thrombosis of the sinus longitudinalis, of the left sinus transversus of the perforated cerebral sinus, and of the branches of the pulmonary vein of the right lung. A transverse necrosis which had reached the main bronchus but was not regarded as the result of local injury through tracheotomy.

The author used 1 cc of 1% magnesium sulphate solution following tracheotomy and respiration.

A 0.5% solution of magnesium sulphate was used for injection according to the age of the patient and the violence of the spasms. Occasionally several injections a day are required. The injection is indicated with the appearance of muscular spasms, and with continued rigidity only where respiration is markedly inhibited by the rigidity of the throat, abdomen and thoracic muscles. In the cases observed, cessation of the cramps, relaxation and sleep appeared after a short time — occasionally after only a few minutes. The effect of this intradural injection of magnesium sulphate depends upon local processes. The position of the patient has a great influence over the manner in which the spread, so that if the patient is placed horizontally or if the head is placed a little lower, deep sleep appears after very brief time. This effect is also

seen if the head is not lowered until some time after the injection. In an examination of the spinal cord of the child which had died of tetanus, Bürgi was able to demonstrate the presence of the magnesium salt in the nervous tissue and he found that the content decreased from above downward. This tallies exactly with the clinical observations on the influence of position on the extension of the action. The significance of this lies in the fact that the physician may thus regulate the distribution of the drug. Kocher recommends that one strive to secure a cerebral effect from the first where the muscles of the head and chest are involved. Where the respiratory center tends to become dangerously involved, there are certain remedies, such as the washing of the subarachnoid space with salt solution and insufflation of oxygen or air. The author performed tracheotomy in all three cases and insufflated oxygen. According to a communication from Meisner however a sustained insufflation under 15 to 20 mm. mercury pressure is preferable because in that case the carbonic acid is more quickly expelled. A prophylactic physostigmine injection or even prophylactic tracheotomy may be considered, in order that, in case of necessity oxygen or air may be immediately administered.

WORTHMAN

McGord The Employment of Protective Enzymes of the Blood as a Means of Extracorporeal Diagnosis. *Surg. Gynec. & Obst.* 9, 2, 271, 4, 2.
By Surg. Gynec. & Obst.

On the parteral introduction into the blood of substances different in physical form from such as normally occur there are enzymes capable of digesting these foreign materials, and transforming them into forms not qualitatively different from normal blood constituents. The portals of entry for such materials are (1) overloading the intestinal tract so that some food passes through the enteric barrier in a complex form (2) from intra-venous and intra-abdominal injections (3) or from the organs of the body which from their individual specific nature when thrown into the circulation exchange albumens, etc. no less foreign than parteral injections. This formation of protective enzymes is involved in the phenomena of sensitization, anaphylaxis and immunity. Such an enzyme cleavage of proteins underlies the various cutaneous reactions such as leprodiagnosis, tuberculin reactions, and the chorioamnion diagnosis of syphilis. It is pointed out that cleavage of proteins not only occurs intracorporeally, but that drawn blood has similar proteolytic activity. When placed in contact with substances against which the contained enzymes were generated. The serodiagnosis of pregnancy as evolved by Abderhalden is based on this phenomenon. In the period of placental formation cellular fragments from chorionic villi are thrown into the maternal circulation with the concomitant formation of protective enzymes (choriolysins) which in turn digest the

placental proteins. Drawn blood containing these enzymes digest extracorporeally placental proteins, breaking the complex forms down to the amino acid stage, which through dialysis serves as a criterion of the test.

Employing the methods of Abderhalden with some modifications, laboratory work on humans, cows, dogs, and guinea pigs was carried out. Two hundred and forty experiments yielded results corroborating the results reported from Abderhalden's work. A more permanent and more easily handled preparation of placenta, as obtained by desiccating the coagulated placenta, by extracting repeatedly with acetone and drying "in vacuo" in an atmosphere of toluol. This by comparison with coagulated placenta in the same cases gave accurate results. Despite the complex technique and many sources of error the method when carefully controlled appears sufficient merit to prove of value in the differential diagnosis between pregnancy and the many simulating conditions.

Von Rock: The Relative Value of Living or Dead Tubercle Bacilli and of their Endotoxins in Solution in Active Immunization Against Tuberculosis. *Med. Rec., 9, 2, 1904, 307.*
By Surg., Gynec. & Obst.

Spontaneous recovery in tuberculosis is assumed to be due to the formation of specific protective bacteriolytic substances which can be demonstrated in the sera, but in many cases resorption of bacillary products is massive, overwhelming the organism and in others complicated by absorption of products of other pathogenic bacteria and the course of given case depends therefore largely on these two factors.

If, during the excessive resorption of bacillary products, such serum is tested for amoebocytes it is only that which is not bound to the free endotoxins or bacilli which is demonstrable. The united antibodies and endotoxins are further reduced through the ferment action of complement and these reduction products are presumably toxic peptones whose elimination through the kidneys account for the toxicity of the urine in tuberculosis. With the advent of sufficient drainage amelioration occurs coinciding with the disappearance of antigen in the blood, but often accompanied by excessive resorption of endotoxins corresponding with the increased tissue disintegration.

For these reasons active immunization is not always necessary and at an inopportune time may do harm, while progressive cases receive it best but little benefit. Relapses under any degree of immunity may be accounted for by the breaking down of caseous tissue with renewed absorption of bacillary products, while in surgical tuberculosis demonstrable antibodies occur late if at all and are especially liable to be benefited by active immunization.

In considering the antigen for the production of active immunity it is agreed that it must represent all body substances of the bacterium. Many anti-

gens have been offered and the contradictory results following their use led many observers to believe that a true immunity against tuberculosis was impossible of attainment. The demonstration of antibodies by the complement of fixation test has greatly aided in solving this question. A sterile soluble vaccine of equally efficient is preferable to one of dead or living bacteria either for therapeutic or prophylactic purposes, because of the inaccuracy of the dose of the bacillary emulsion and the liability to local necrosis at the point of injection. The power to liberate endotoxins from the bodies of tubercle bacilli is acquired very slowly in the normal lower animal and one has no right to infer it to be any greater in the non-tuberculous human when it is desired to give the antigen for prophylactic purposes. Furthermore living tubercle bacilli of the human type have been found in the milk and flesh of vaccinated cattle three years after their intravenous administration and the danger of resumption of virulence is great. The experiments of many observers being quoted to show that avirulence by passage through animals is not permanent.

In discussing prophylactic immunization against tuberculosis by means of a non-living antigen in the form of pure endotoxins of tubercle bacilli, Von Rock attributes its value to the presence of all necessary constituents of the organism. The results of the administration of this vaccine in two series of cases are offered the first determined as long as fourteen months and the second only three months after vaccination. Of 10 cases examined fifteen months later all have made complete physical and clinical recovery after a single dose of vaccine with one exception in which other than tuberculosis disease accounts for the ill-health. Of 66 cases showing glandular enlargement involving one to six groups there are now only seven which show enlargement, confined to one or two groups. Subcutaneous tuberculin tests, positive in all cases before treatment, now are uniformly negative.

The improvement in cases of the second series examined three months after vaccination is marked. Two are still under treatment, ten are clinically well and the balance have physical signs limited to small areas. No glandular enlargement is demonstrable in forty cases which previously showed involvement of one to six groups.

Von Rock believes he has supplied sufficient evidence of the prophylactic value of his vaccine and summarizes it as follows:

After the full dose of vaccine all the specific antibodies can be demonstrated in every serum after the fifth day and without diminution up to twenty months.

These sera cause complete disintegration *in vitro* of the bodies of virulent tubercle bacilli to granules and free fat and *in vivo* cause such complete destruction that no bacillary residue is demonstrable.

3. The sera destroy all virulence of the bacillary residue left over in the tubes used for bacteriolytic tests *in vitro* and immunized animals withstand the

that in experimental work to test the influence of various substances on the coagulability of the blood, it must be removed from the vein in such a way that it touches nothing but the endothelium. Even the slightest admixture of these juices must be carefully avoided. The coagulability of the blood is markedly increased by the addition of concentrated salt solutions.

KARSTEN

Drugs. Coagulation of the Blood and Its Value in Obstetrics and Gynecology (*Die Koagulation des Blutes und ihre Verwertung in Geburtshilfe und Gynäkologie*) Schmidt, *Jahrb., Leipzig*, p. 3, March.

By Surg., Gynec. & Obst.

This is an exhaustive résumé of all the recent literature on the subject. After fully reviewing and discussing the various papers, the following conclusions are drawn:

First, in diseased conditions the coagulation is much more frequently lengthened than shortened.

Second, it is doubtful whether there is an increased coagulation of the blood which is of pathological importance to man.

Third, therefore all attempts to prevent thrombosis in the circulating blood by lowering the fibrin coagulation ability are purposeless.

CLIFFORD G. GAYLOR.

BLOOD AND LYMPH VESSELS

Pfender. The Value of Skiagraphy in the Diagnosis of Aneurism of the Abdominal Aorta; Presentation of Case and Descriptive X-Ray Plates. *Week. M. Am.* p. 3, Feb. 9.

By Surg., Gynec. & Obst.

Pfender says that although vascular skiagraphy is very difficult as compared to that of bones at the present day with improved and perfected Röntgen apparatus it is possible not only "to confirm diagnosis of aneurism but to establish positive diagnosis in fairly early stages of such conditions in even extremely doubtful cases. Very little skiagraphic work has been reported about abdominal aneurism, probably because this form of aneurism is less frequently encountered than the thoracic variety and also because it is practically impossible to use the fluoroscope because of the density of the abdominal tissues.

Any part of the abdominal aorta may be the seat of an aneurism but it most commonly occurs in the region of the coeliac axis and is of the saccular type, later becoming fusiform. The condition is usually not diagnosed till it has progressed so far that a tumor can be seen and expansile pulsation elicited, and in many cases diagnosis is never made. The author therefore suggests that in an obscure symptom-complex arising within the abdominal cavity an X-ray be taken. If aneurism be present, the plate will probably show erosion at some point along the spinal column and this erosion is easily differentiated from tuberculous osteitis.

The prognosis of aneurism of the abdominal aorta

is most unfavorable at present, the average course being 15 to 20 months. In 65 per cent of the cases it terminates in rupture. Surgical procedures are of little value.

Case report. Man, married, age 36. History negative. Wassermann negative. Hard worker. Patient hurt his back in 1911 while doing heavy lifting. A dull pain developed and became so severe that patient was incapacitated. Pain radiated from back to both hips and caused weakness in lower extremities. Relief was obtained by lying face down on a hard table. Lost 63 pounds in 1 year and was treated for tuberculosis without benefit. On examination by Pfender patient presented a tumor about 6 cm. to left of last dorsal vertebra or first lumbar. Expansile pulsation. Radiograph showed partial erosion of first lumbar vertebra and lateral deviation of the spinal axis to the right. Also showed a distinct shadow from the upper border of the 12th dorsal to the 4th lumbar vertebra and about 7 cm. to left of the lumbar spine. Pain was terrific and constant and the course was steadily downward in spite of all treatment. BERTMAN M. BERENSON.

Key. Operation for Embolus of the Femoral Artery (Fall of operat emboli arteria femoralis).

Hypoc. Stockholm, p. 3, Nov. 73.

By Zentralbl. f. d. ges. Chir. v. L. Groughe.

A forty-three-year-old man with a mitral stenosis of several years standing had been feeling thoroughly well, but was suddenly attacked by pain in the abdomen, bloody diarrhea and vomiting. A diagnosis of probable embolus or thrombosis of the mesenteric vessels was made under general treatment the patient improved, but twenty days later he suddenly began to have severe pain in the left popliteal space, also coldness and lack of sensation in the leg.

On a diagnosis of embolus of the femoral or popliteal artery, the patient was peritonized seven hours after the beginning of symptoms. Incisions made over the back of the foot and in the popliteal space demonstrated that the arteries were empty. An incision was then made in the inguinal region, exposing the common superficial and deep femoral arteries. For a 5 cm. upwards from the bifurcation of the common femoral artery resistance was felt, which, on incision, proved to be an embolus, completely filling the artery. The common and deep femoral arteries were clamped, but none were placed on the superficial femoral. After removing the embolus, a troublesome hemorrhage occurred from the collaterals through the external podic artery. The incisions at first did not bleed, but now that the circulation was unimpeded they bled freely. The extremity was elevated after the operation. During the after treatment there was temporary paralysis of the peroneus muscles and thrombosis of the external peroneal veins, with stricture of the gastrocnemius muscle, probably caused by a slight ischemic constriction.

Three cases of operation for embolus of the

peripheral arteries were found in the literature one successful and two failures. While it is a generally accepted opinion that the circulation in an extremity can be cut off by an ischemic bandage for two or three hours without injury from this case it appears that a complete occlusion can last for seven hours without necessitating amputation. **GROSS.**

Oppel Wieting's Operation and the Impeded Circulation (*Die Wietingsche Operation und der indurierter Blutkreislauf*). *Archiv-Zeit.*, 9, 3, 17, 203. By Ziemisch, I. d. ges. Oynsk. u. Geburtsh. u. d. Gynäcol.

The author states that Wieting's operation is successful only in cases of slowly progressing ischemic gangrene not complicated by either thrombophlebitis or phlegmon. Bier's experiments show that under increased pressure in the veins the resistance of the valves can be overcome and that the blood stream can be reversed, but further experiments by the same author show that even under rather high pressure only part of the blood can be forced through the capillaries but the arteries Bier explains this by the so called blood-sense (*Blutgefühl*) that is, the selective power of the capillaries to allow only arterial blood to pass through. It is therefore possible after Wieting's operation for the blood to overcome the pressure and empty itself into the arteries, though it must not be forgotten that Bier's experiments were performed on limbs under constriction. If the extremity is not constricted, the blood will partially overcome the resistance of the valves, but will return by way of the collateral veins without reaching the capillaries, as the experiments of Coenen and Wlewniowski go to show. In spite of this, Wieting, and more recently Perlmoff insist that the operation is followed by objective and subjective improvement, though neither author can explain his point satisfactorily.

The author agrees with Hesse that the improvement is to be explained by the delayed return circulation that is caused by the slowing of the blood currents. The author suggests the ligation of the popliteal vein, and considers this a palliative procedure claiming to have observed temporary improvement in all his cases except one. The disadvantage of the operation is the author's opinion is the decreased supply of arterial blood in the collateral vessels, whereas success can be attained only by raising the pressure in these vessels, a condition which can be produced in cases of gangrene of the foot by interfering with the venous return by ligation of the popliteal vein. The author considers the ligation of this vein a palliative measure which is contra-indicated when there is thrombophlebitis or edema of the extremity involved. If gangrene has set in and amputation is refused, this measure will relieve the pain temporarily even though the development of the process cannot be checked. If the gangrene has not developed, the function of the extremity may be temporarily restored. **VON ROOST.**

Warner and Von Zubornyck The Influence of Colloidal Silver on the Opsonic Index (*Über die Beeinflussung des Opsonin durch Elektrolyte*). *Mitschen. med. Wochenschr.* 9, 3, 12, 231.

By Ziemisch, I. d. ges. Oynsk. u. Geburtsh. u. d. Gynäcol.

Colloidal metal influences the opsonic index of serum toward various bacteria. This action does not depend upon the colloid nature of the substance but upon the metals. The behavior of the leucocytes toward streptococci under the influence of colloidal silver was studied in man, animal, and the test-tube. For the animal tests, rabbits were used. The vein of the ear was infected with an isotonic colloidal silver solution, 0.5 gm. per kgm. body weight. The serum was collected before the injection as well as one hour and twenty-four hours afterwards. A twenty-four hour bouillon culture of streptococci was diluted 3. The leucocytes of the patient were washed three times in normal salt solution after the blood had been collected in a 1/2 per cent sodium citrate solution. The experiments showed that after twenty-four hours the phagocytosis is markedly raised but in the one-hour specimens this is not noticeable. For experiments on the human, two pregnant patients, two with puerperal fever and two puerperal cases without fever were injected with the silver solution in the vena media cubiti. The results were the same as those in animals and there were no variations in the way the different patients reacted. In the afebrile cases nervous manifestations, increased blood pressure, cyanosis and frequent pulse appeared all of which subsided in 5 minutes. Lastly experiments were carried on to study the nature of the action brought about by the solution to see whether it affected the phagocytic potency or whether the serum was mainly affected. These resulted in the conclusion that the results were due to the change in the serum. The opsonic index of the leucocytes is raised only in the presence of and by means of serum. **HETEMACK.**

ELECTROLOGY

Grödel Four Years of Experiments with Röntgen Ray Apparatus with an Interrupter (rectifier) and Certain Important Modifications of the Apparatus (*Vierjährige Erfahrungen mit unterbrechenden [gleichrichter] Röntgenapparaten und einige wichtige Neuerungen an denselben*). *Mitschen. med. Wochenschr.* 9, 3, 12, 471.

By Ziemisch, I. d. ges. Oynsk. u. Geburtsh. u. d. Gynäcol.

One disadvantage of the Röntgen apparatus with an interrupter is that the interrupter very soon wears out and is difficult of manipulation. This fact led the author to devote several years to the elaboration of a practical Röntgen ray apparatus without an interrupter. The instrument devised, as after passing current is used, which for high tension work is transformed into pulsating direct current (without closing the current) by means of secondary rectification. The secondary energy can be very exactly measured. It makes the apparatus economical for X-ray treatment, the phases of the current

recurrence in giving the thorax beneath the skin presented preliminary operation was advised but refused, and the patient passed from under the a thoracostomy.

In contrast to these cases the author reports many failures due he thinks, to the fact that so many of them were very late cases—some even in extremis. When the lymphatic glands are involved a cure by radium is impossible. Secondly the early removal of diseased thorax and the immediate application of radium will lead to a far greater number of cures than by any other procedure.

This immediate application the author believes to be the most important factor. H. A. PORTER.

Aschoff Krönig and Gauss. The influence on Deep-seated Carcinoma of X and Radium Rays (Zur Frage der Benutzbarkeit tiefergelegener Krebse durch strahlende Energie). *München med. Wochenschr.*, 9.3.12, 317.

By Zentralbl. f. d. ges. Chir. I. Greunig.

The authors undertook to study the influence of strong filtered Röntgen and radium rays on deep-seated carcinoma. A number of cases in Krönig's clinic which were treated by the rays were observed for a long time clinically and also the effects of the treatment were controlled by pathological (Aschoff) and histologic examinations in which not only the composition of the tumor tissue but also the effect of the rays (especially very high doses) were noted for possible injuries of the rest of the organs. The cases examined were an inoperable carcinoma of the stomach, the cervix and the mamma from which extensive microscopic and mercuric sections were made and the results of atropine given in addition were other cases of inoperable carcinoma of the portus and mamma which until being treated are being controlled histologically. The following are the results: 1. The rays X-rayed there as not found in single case complete destruction of the carcinoma tissue but pronounced retrogression of the tumor as attained most markedly in carcinoma of the stomach. At first this as of purely adenomatous character but post mortem only single nests of carcinoma cells in a scarred ground substance were found. 2. The other cases following regression there was again growth but the carcinoma tissue changed its type to a more ripened form of less

malignancy that is, soft pavement epithelium carcinoma of the portus into a horny type, tubular mamma carcinoma into a pavement celled. An influence is seen on the metastases which are not directly X-rayed. A growth in the sense of distant growth was not noted from which it is concluded that therapeutically it is not particularly necessary to X-ray the metastases locally. As to the injurious effects upon the rest of the body the liver showed definite injury in two cases and the mucosa of the stomach showed changes which probably were due to the treatment while the other organs seemed to be able to stand very high doses without injury. The blood picture remained normal with a single exception (transient leukopenia). The examinations showed the possibility of using X-rays for deep cancer without injuring the overlying skin, and that these influenced the tumor markedly. HARTER.

Stewart. Notes from the X-ray Department of St. Bartholomew Hospital. *Arch. Rad. Ray*, 19.3.12, 42.

By Surg. Gynec. & Obst.

In experimenting with metals as to their power of giving off secondary rays it was found that metallic silver possessed this quality to such a degree that it could be used to advantage as an intensifying screen. Smooth sheets of silver or sheets of copper plated with silver when placed in contact with the film of photographic plates reduced the time of exposure to third or fourth of that required for the plain alone.

Since this effect depends upon secondary radiation from the silver rather than a direct effect from such fluorescing material as calcium tungstate, the resultant detail in all the shadows of the plat is much better. The secondary rays produce a rich chemical action upon the plat and are able to pass through such minor obstructions as particles of dust. The plates obtained are therefore free from the granular defects and dust spots so generally seen in plates made with the screens now in use.

The degree of intensification is less than is given by calcium tungstate which reduces the time of exposure much more than the three or four times claimed for silver. The silver screens are therefore of greatest use in the radiography of subjects where the utmost speed is not essential but great clearness and detail are required. HARRIS E. PORTER.

GYNECOLOGY

UTERUS

Gary, Chorio-epithelioma; Recurrence Three Years After; Invasion of the Spinal Canal; Villi in the Secondary Growths. *Surg. Gynec. & Obst.* 9, 3, xvi, 35. By Surg. Gyner & Obst.

The thor presents a case of chorio-epithelioma in which secondary manifestations of the disease occurred and terminated fatally three years after complete panhysterectomy as performed.

The case was admitted to the hospital four months after an incomplete abortion during which time she had been cured. On entrance she complained of pain and tumor mass in the left lower quadrant of the abdomen. At operation the uterus was found to be enlarged and thickened tumor as present in the left broad ligament and in the left ovarian veins. These tumors were erythematous and bled easily. A radical operation done and the patient discharged from the hospital in good condition.

The patient was re-admitted to the hospital just three years after her previous operation. This time complaining of pain in the back and hips. Her condition grew steadily worse and she developed paralysis of the legs and involuntary incontinence and defecation the severe pains disappearing. A fall now the chest soon appeared with moderate dyspnea and she coughed up some bright red blood at intervals. During this time the respirations ceased and the patient soon died of exhaustion.

Autopsy showed metastatic nodules of secondary chorio-epithelioma in the lungs, spleen, diaphragm, dura mater, spinal cord, pulmonary arteries, ovary and uterine vessels and the thoracic duct. The author made careful microscopic study of these various lesions and found that in sections taken from the broad ligament, the left ovarian vein and in one instance from a section from the pillars of the diaphragm. None, however, found the Langhans cells, here Langhans cells seemed to predominate.

The author takes up the consideration of chorio-epithelioma as it is understood today and quotes the true chorio-epithelioma is well defined structure resembling the epithelial covering of villi in the early stages of gestation and placenta, namely Langhans cells permeated and surrounded with vacuolization, and plurimodular masses resembling the syncytial ends of villi. A classification of the different kinds of chorioma after Marchand and Ewing is considered in which the various terms used are correlated so that the tumors may be brought under the heads of typical, typical or transitional chorio-epithelioma.

It was thought best to classify this specimen as chorio-adenoma, although exception may be taken

to this view on the ground that the integrity of the tumor cavity, the extensive secondary growth and the fatal outcome of the case are typical.

Next the author discusses the unusual conditions in his case as contrasted to conditions found by other authors, namely the presence of villi in the secondary tumors, recurrence 3 years after radical operation and metastases in the spinal canal.

In conclusion he states: One would be justified in calling this case chorio-adenoma with malignant tendencies. It represents what Ewing terms potential malignancy for both the clinical and histological picture is that of a rather benign chorioma. This benignity lasted for nearly three years when malignancy appeared as shown by the fatal termination from general metastases which contrast the earlier tumors which consisted of nests containing many Langhans cells, mitotic figures, necrosis, thrombosis and leukocytes in reaction. These latter features considered the essentials of malignancy.

Abel, Electrical Coagulation in the Surgical Treatment of Cancer Especially of Uterine Cancer (Die Elektrokoagulation bei der hysteren Beseitigung des Krebses, speziell des Gebärmutterkrebses). *Arch. f. Gynäk.* 9, 1, 394. By Zeynehl, d. gen. Gynäk. Gebärtsch. d. Grenzgeb.

We must endeavor to perfect the surgical methods to such degree that recurrences if possible will not occur after cancer operations. If we succeed in completely destroying the cancer tissue before it is removed from the body so that we enabled to work on completely genuine tissue mass then hope is at least not of those recurrences which result from dissemination of cancer cells during an operation. Such complete destruction of tissue may be attained by the use of electric coagulation, or diathermy, or high frequency galvanic and X-ray. Zeynehl, A de Forrest needle is used in place of one of the electrodes and the cautery needle replaces the knife. Blood and lymph vessels become coagulated and closed unless hemorrhage takes place. The author operated vaginally in clinically favorable case by this method no reaction occurred. The tissues are destroyed with the exception of small place in the fundus, and gave the appearance of having been cooked. An improvement in the technique is only necessary to destroy all invaded tissue without leaving any remnants. Operating according to this method is not very easy but the operation need not be much lengthened by the diathermy. In the reported cases it lasted 30 minutes. The author requests gynecologists to test the method.

McDonald The Treatment of Fibroid Tumors; with Report of 700 Cases. *Am. Med.* 93, 48, By Surg. Gynec. & Obst.

The author has presented a series of 700 cases which have been worked up microscopically. The cases have been studied from the point of view of age and its relation to cancerous changes and degenerations and the tables tell their own tale.

TABULAR ANALYSIS OF AGE, COMPLICATIONS AND DEGENERATIONS OF 700 FIBROID TUMORS

TABLE 1 Character of Tumors		No.	%
Single		35	34
Multiple		46	66
Small, pt 4 cm		57	36
Medium, 4 to 8 cm		200	98
Large, above 8 cm		34	33.5
Subserous		36	9.5
Internal		90	7
Submucous		75	7
Combined		299	47

Table 2 Degenerations and Malignant Changes

(A) Degenerations of Tumors		No.	%
Hyaline		7	8
Calcereous		65	9
Cystic		20	3
Hemorrhagic		14	
Necrotic		57	8
Adenomyoma		3	1

(B) Associated Malignant Changes

		No.	%
Adenocarcinoma		20	9
Squamous carcinoma		6	8
Sarcoma			
Chorioepithelioma malignum		3	3
Total malignant changes		35	1

TABLE 3 Complications of Tumors

		No.	%
Ovarian cysts		53	7.5
Cystic ovaries		4	20
Ovarian fibroma		8	
Ovarian carcinoma		3	
Salpingitis		94	7.5
Appendicitis or periaepididitis		15	

Table 4 Age of Patient

Age	N	%	Age	N	%
20-3	7		50-60	95	3
30-4	34		60-70		3
40-50	33				

TABLE 5 Relation of Age to Degenerations

(A) Year		%	(E) Squamous Carcinoma		%
Age			Age		
20-3		5	20-30		
30-40		7.7	30-4		4
40-50		3	40-50		3
50-60		9.3	50-60		2
60-70		20	60-70		4.6

(B) Calcereous Degeneration

Age	%	(F) Sarcoma	%
20-30		Age	
30-40		20-30	
40-50	6	30-40	
50-60	4	40-50	6
60-70	1	50-60	3
		60-70	9.5

(C) Hyaline Degeneration

Age	%	(G) Chorioepithelioma	%
20-30		Age	
30-40		20-30	0
40-50	16.8	30-4	
50-60	6.6	40-50	0.6
60-70		50-60	
		60-70	

(D) Adenocarcinoma

Age	%	(H) Total Malignant Tumors	%
20-30		Age	
30-40		20-30	
40-50	3.6	30-4	
50-60	6.3	40-50	5
60-70	9.5	50-60	7
		60-70	3.8

A topography

Heart lesions and topography

A consideration of this table shows that the older patient the more danger from the fibroid tumor. The older the patient the greater probability there is of malignant changes and other dangerous degenerations, such as necrosis. This shows that the menopause does not relieve the patient from danger from fibroids as from the hemorrhage. Other and more dangerous complications remain and increase in degree with each succeeding year.

The consideration, therefore of this series of fibroid tumors warrants the following conclusions:

The menopause does not bring a cure to fibroids; the contrary. Increasing age increases the danger from these growths.

There is little danger of malignancy arising in fibroids before the fortieth year of the patient after which time the danger increases with each year.

3. In view of the cancerous changes, carcinomatous associations and other degenerations of uterine fibromyomas, early removal is indicated when they are of sufficient size to produce symptoms and cause the patients to seek advice. Small uncomplicated fibroids in young women do not require early treatment.

4. Thorough pathologic examination should be made of all fibroids for evidence of malignancy. The tumor should be opened at the time of operation and examined for adenocarcinoma or sarcoma. Particular study should be devoted to those tumors which are necrotic, cystic, or both as among these are found the largest proportion of malignant changes.

5. In view of the large percentage of inflammatory changes in the Fallopian tubes and appendix, these should be examined at the time of operation and removed, if diseased.

EDWIN CUL

The patient was far advanced in anemia and shock. She was half witted and her condition so serious that the vagina as kept plugged for eight days while ergot and stimulants were administered. A round tumor was found protruding from the vulva, the size of the vulva, which bled easily. The cervix could not be felt. Under anesthesia and bi-manually the protruding mass was made out to be an inverted uterus with pedunculated myoma. This tumor as removed and in so doing cyst was opened containing fluid under great tension. There as severe bleeding for time from the ovum. The uterus was readily replaced by application of three bullet forceps.

CARE CULBERTSON.

Frank Contra Indications to Curetting. *N. Y. M. J.* 93, 3, 306. By Surg., Gynec. & Obst.

The author bases his observations on 3000 consecutive cases taken from his dispensary records in which careful note was made of the number of curettings and the reasons for their performance. Of these cases more than one patient out of every five had been curetted at some time. He divides his observations under the following headings: (1) abortion—induced and spontaneous; (2) post-abortive conditions; (3) post-partum conditions; (4) ectopic gestation; (5) parametritis and adhesitis; (6) so-called endometritis, including leucorrhoea; (7) menorrhagia and metrorrhagia. He comes to the following conclusions: Curetting in class is hardly ever necessary unless profuse hemorrhages, resisting usual treatment demand cure intercurrent. In the long run more patients will be saved by no interference than by even the lightest curetting. Post-abortive bleedings usually disappear after non-operative treatment. In post-partum conditions, also curetting is never necessary. If placental tissues are retained they should be removed manually. Whenever the slightest shadow of doubt exists ectopic gestation, it becomes imperative to curetting and to wait further developments. In dysentia and parametritis with menorrhagia curetting is never advisable unless it is immediately followed by further operative work on the uterus. Endometritis is rarely benefited by curetting. It certainly does not improve leucorrhoea which is usually of cervical origin. Sterility also could not have been relieved by scraping if the dilatation of the cervical canal had not preceded it. Ovarian disturbances play more important rôle in female sterility than suspected abnormal conditions of the uterus.

However in pre and post-menstrual hemorrhages, in menorrhagia and metrorrhagia, curetting is always indicated for diagnostic purposes and the scrapings must be subjected to microscopic examination. The result will determine the character of further treatment. The use of curetting is rarely necessary in abortion practically never after labor harmful in pelvic inflammation, often fatal in ectopic gestation. The instrument is of value mainly for diagnostic purposes.

HENRY SCHMIDT

Wilcox The Underdeveloped Anteverted Uterus and the Sterile Woman. *J. Am. Inst. Hyg.* 913. By Surg., Gynec. & Obst.

The author gives his views as to the cause, result and treatment of the above condition. He bases his theory for the cause on an embryological factor—namely a developmental defect at the point where the cervix joins the fundus. This causes an angle to be formed at the junction which results in: (1) more or less closed cervical canal; (2) the internal os and; (3) a fundus shut off from its normal blood supply and atrophy.

In considering the uterine ligaments, Wilcox believes that the utero-sacral ligaments, if congenitally short, may by their attachments at the junction between the fundus and cervix cause this acute ante-flexion.

The author believes that treatment should be begun early when the young girl is just entering womanhood, and the symptoms are usually dysmenorrhea, or membranous dysmenorrhea. In treatment, first the uterine canal must be opened up to establish free drainage and straighten out the acute angle. The uterus is next packed twice for periods of 48 hours. Then for 3 months, dilated twice.

Next, then for 3 months, every other week. Next electricity and bimanual massage may be used to stimulate the growth of the uterus and the latter to stretch the tense ligaments. The duration of treatment should occupy about 3 years.

EDWARD CAR

Delle Chiavie The Relaxation of the Cervix in the Surgical Treatment of Anteversion of the Uterus (Lo allentamento cervicale del collo nella cura chirurgica dell'anteversione uterina). *Arch. ital. di ginec.* 93, 271, 30.

By Zentralbl. f. d. ges. Gynaek. u. Geburtsh. d. Oestreich.

The author performs Pozzi's at laparoscopic procedure in anteversion and dysmenorrhea. In twelve cases dysmenorrhea disappeared, sterility disappeared in two. The operation does not act by the removal of the obstruction to the menstrual blood, the author denying this mechanical theory of dysmenorrhea, but by improving the circulatory conditions in the cervix and thereby also the corpus, so that abnormal contraction and blocking during the premenstrual period is diminished.

MARTIN.

Griffith A Discussion on Ventrofixation; Its Indications, with Analyses of 77 Cases. *Proc. Roy. Soc. Med.*, 93, 1, 87.

By Surg., Gynec. & Obst.

Griffith reports in detail seventy-seven cases of uterine fixation to the abdominal wall, though five were really suspensions, four by the Gilliam method and one by that of Webster. His method of fixation consists in passing two silk suture threads deeply into the anterior uterine wall, beginning just below the attachment of the round ligaments. Both ends of each suture are brought through the peritoneum rectus, and anterior sheath at distance above the

pubes, chosen in each case according to the degree of prolapse of the uterus and laxity of the abdominal walls. These sutures are buried in closing the laparotomy wound and have given no subsequent trouble. In cases seen, he has found close and firm attachment without any fundal or other pedicle. Griffith considers this method an operation of choice in the varieties of cases.

Those in which the supports of the uterus are sufficient to maintain it at or nearly its proper level in the pelvis, but in which retroversion or retroflexion of the body of the uterus and adjacent broad ligaments, leading to prolapse of the ovaries, is the cause of serious discomfort.

The cases in which prolapse of the uterus broad ligaments and ovaries is considerable, and is associated with varying degrees and forms of vaginal, vesical and rectal protrusion. CAUSEY CUNNINGHAM

Giles The After Results of Operations for Uterine Displacements. *Proc Roy Soc Med* 93, 91. By Surg. Gynec. & Obst.

Giles limit his reports to the after-results of specific abdominal operation, hysterectomy. By this term he means neither ventrofixation, quite obsolete nor ventro-suspension, rarely done, but rather an operation whereby the sutures are passed each side of the incision through the fascia and peritoneum and through the anterior wall of the uterus as low down as possible, leaving the fundus free to expand in the event of subsequent pregnancy. He discusses the after-results in five paragraphs.

(1) Eighty per cent were better generally as well as locally; ten per cent more they are improved locally at least.

(2) The bladder shows disturbance in the form of frequent micturition in some cases, but 78 out of 86 had no trouble, being once off than before operation.

(3) Of the 5 cases under review 74 are married women under forty years of age. Of these twelve became pregnant. Eight of these have been confined all spontaneously, but two, who were aided in the second stage by forceps. In this group there has been no miscarriages though in former group not previously reported there were 6 abortions and 44 full term pregnancies out of 60. In another group of ten confinements following operation, all were spontaneous. As result of these observations, Giles claims that hysterectomy causes no complications during pregnancy or labor.

(4) The effect of pregnancy on the results of the operation shows that of total 137 patients examined after total of 48 confinements at term, in but one as there partial return of the displacement. This is no greater (2.7 per cent) than in those cases not followed by pregnancy. One patient had had 1 subsequent labors and another had had three.

(5) The proportion of permanent cures is as follows. After retroversion in 1 cases, the uterus remained in good position, as partially displaced

in three and seven gave a total failure. After prolapse 56 cases remained cured, or 100 per cent. After procidentia, in 50 cases the results were good, no showed partial recurrence and three were failures. In 341 cases, therefore 337 or 95.9 per cent, were successful four or 1.2 per cent gave only imperfect results and 0.9 per cent were failures. CAUSEY CUNNINGHAM

Briggs The Technique of Ventral Fixation of the Uterus and Allied Operations. *Proc Roy Soc Med*, 93 vi, 76. By Surg., Gynec. & Obst.

Briggs emphasizes the importance of fixing the uterus to the parietal peritoneum alone and not that by the anterior uterine wall only. He employs twisted silk and puts the lowest suture to the summit of the bladder the higher ones somewhat laterally so that broad area of the uterine wall is fixed. He agrees with Kuster that mobility with fixation is desirable, and favors this method because it effects (1) minimum strain on its own products (2) rest and recuperation for the already weakened natural supports of the uterus (3) accurate anatomical adjustments for post-operative pregnancy and labor. The after histories of 597 survivors, out of 600 operated upon, have been systematically obtained and recorded. The present estimate is that in 98 per cent of the cases the ventral fixation permanently rectifies the retroflexion. In large number of cases (1) subsequent pregnancy natural labor has been the rule and easy forceps delivery the exception. In few cases, retroflexion recurred after labor and few of the earlier cases also recurred where the technique had not yet been perfected. Finally the author emphasizes the importance of an adequate pelvic floor as platform of support considering this the primary security for reasonable ventrofixation. CAUSEY CUNNINGHAM

Leonard Post-operative Results of Amputation of the Cervix. *Surg Gynec. & Obst* 93, xvi, 390. By Surg. Gynec. & Obst.

An analysis of the post-operative results of the cases of amputation of the cervix performed in the Gynecological Clinic of the Johns Hopkins Hospital was undertaken to determine the efficacy of the operation as curative procedure and its effect if any upon the subsequent marital history. Complete post-operative reports were obtained in 18 cases upon which this analysis is based.

General Health. The patients were divided into three groups according to operation and the effect on the general health tabulated.

Group	No.	Improved	Same	Worse
Amputation alone		or 81%		
With Perineorrhaphy	67	to or 94%	or 8%	or 2%
With Abdominal Section	13	to or 92%	or 2%	or 6%

About 9 per cent of the entire series reported improvement of the general health.

Leucorrhoea. Of the 8 cases, 10 had leucorrhoea before operation. Sixty-eight cases reported cure (6 per cent) and in thirty-three cases there

As both bleeding and the amount of the discharge (50 per cent) in the cases (8 per cent) were improved in this respect.

3. Menstrual Pain. The pain is considered in three groups according to the operation. Cases having no pain either before or after operation are not included.

Group	No. of cases	Before operation	No. of cases	After operation
1. Partial hysterectomy	10	7	10	7
2. Total hysterectomy	10	7	10	7

Nearly 60 per cent of the patients noticed no relief of menstrual pain following operation.

4. Sterility. In 10 cases of sterility before operation, 4 cases remained sterile after operation. In 6 cases of sterility before operation, 4 cases became fertile after operation.

5. Influence of the course of pregnancy. In 10 cases of pregnancy before operation, 4 cases had a normal delivery after operation. In 6 cases of pregnancy before operation, 4 cases had a normal delivery after operation.

Before operation	After operation
10 cases	10 cases
4 cases	4 cases

It is noted that the incidence of prematurity and abortion is more than doubled after operation.

6. Deaths. Of the 10 cases of the series, 10 became pregnant after operation. In 10 cases, 4 cases had a normal delivery after operation. In 6 cases, 4 cases had a normal delivery after operation.

After amputation of diseased cervix, 10 per cent of the patients show improvement in the general condition and disappearance (60 per cent) or noticeable decrease (50 per cent) of vaginal discharge. In 10 cases, 4 cases show marked decrease of menstrual pain.

Four fifths of the women in the child bearing period remain sterile and when pregnancy occurs, there is not more than even chance of its progressing to full term. The latter event serious dystocia will be encountered in the majority of cases.

3. Amputation of the cervix is the operation of choice in elderly women but should be applied to those in the child bearing period only when more conservative methods of treatment, such as hysterectomy, cauterization or Crutchfield curettage of the cervix, have failed.

Dr. A. Year's Work in Gynecology and Obstetrics 1913, 9:3 and 4:9. By Surg. Gynec. & Obst.

The various conditions for which operation was done are listed in the following table.

Cases	Percentage
Myoma	6
Myoma with sarcomatous degeneration	
Adenomyoma	3
Carcinoma of the uterus (cervix 8 body 6)	4
Carcinoma of the Fallopian tube (primary)	
Incomplete abortion	3
Concurrent pregnancy	
Stenosis of the vagina	
Prolapse of the uterus	
Metrorrhagia	
Miscellaneous inflammatory conditions	

Percentage	Percentage
100	100
Complete hysterectomy	3
Partial hysterectomy	4
Supra-axial hysterectomy	74

From post mortem statistics it has been shown that about one tenth of all women have one or more masses of the uterus varying in size and symptoms. Therefore Deaver takes an intermediate position between the advocates of conservative treatment and those who advocate operation on diagnosis. Furthermore he believes in no relation between abnormal inflammatory condition of the uterus and ovarian atrophy. The benign forms of degeneration are not sufficiently serious to merit preventive surgery but he does think that uterine myoma predisposes to corporeal cancer which is more frequent than cervical involvement. The chief argument for the removal of fibroids is presented by and not before the occurrence of symptoms. There should be no waiting for menopause the aim being the disappearance of symptoms. Already enough is known of the efficiency of the X-ray in the treatment of deep-seated growths to discount the optimistic reports of some Roentgenologists. As to carcinoma frequency the author's opinion is discouraging. It regards operation here as of little more value than to relieve the mind of the patient whereas the blame of failure to cure rests on surgery. It states that practically the only cases of uterine cancer that have been cured are those operated upon before the disease had actually been demonstrated to be present. Uterine hemorrhage must continue to be regarded as a danger signal and the difficulty in establishing this point of view comes from two sources: (1) The distinction of many women's secure advice upon the subject until the disturbance is marked and the disease is advanced. (2) The failure of the physician to consider the serious aspect of uterine hemorrhage until secondary symptoms appear. The remedy lies in education and the profession is chiefly at fault. Eleven uteri in this series were removed for irregular or severe hemorrhage.

where cancer had not first been proven and where it had been suspected in several only.

LARRY CULBERTSON

Ostrous. A Cradle Suture for Holding the Uterus in Ventro-Suspension. *North Am J Homoeop* 93, xxvi, 90 By Surg. Gynec. & Obst.

The author describes here the method he uses in doing ventral suspension of the uterus. The sutures he uses cut in the long axis of the rectus muscles then first introduced then transversely to their fibers when tied.

With the fundus held up in position a heavy needle threaded with silk worm gut is carried down through the rectus muscle three quarters of an inch from its medial border and after taking a good bit in the uterus is brought up again in the same rectus one inch higher up so that the two ends of the suture lie in the longitudinal plane of the peritoneal opening. The same procedure is followed on the opposite side and after the closure of the peritoneum the silk worm-gut sutures are tied cross the line of the closure thus forming a cradle-like uterine suspension.

The author states that in several years experience with this method he has never failed to get permanent fixation and that the buried suture material has never caused any wound infection even made its presence known. C. D. H. Lutz

F. thell III. Clinical Demonstration of an Operation for Prolapsed Uteri Complicated by Hypertrophy of the Cervix. *Bull. M. J.* 93, 4, 70 By Surg. Gynec. & Obst.

The author emphasizes the objection to the classical operation, as it shortens the anterior vaginal wall and the uterus is left in a retroverted position which favors recurrence. His modification of the anterior colporrhaphy where there is considerable hypertrophy of the cervix consists in dilating the cervical canal and then making a circular incision around the cervix with a knife. The vaginal wall and bladder are pushed back and the cervix is deeply split laterally into anterior and posterior lips. The cervix is amputated and the bleeding controlled by sutures. The circular vaginal wall is incised about an inch on either side the new cuts going to the right and left. The anterior vaginal wall is separated from the parametric tissues and the bladder and a triangular portion with its apex near the urethral orifice is cut away. In closing the incision, the first suture brings together the center of the posterior margin of the vaginal incision and the mucosa lining the posterior wall of the cervical canal. The second and third sutures unite the vaginal wall and cervical mucosa until the vaginal incision comes together in front of the cervical stump. The lateral edges of the vaginal wall are brought together in the middle of the anterior vaginal wall by interrupted sutures from behind forward until the urethral end is reached. The operation is finally completed with the repair of the perineum. R. T. GILBERTSON.

ADNEAL AND PERIUTERINE CONDITIONS

Graves Influence of the Ovary as an Organ of Internal Secretion. *Am J Obst., N. Y.* 93, 161, 649 By Surg. Gynec. & Obst.

Graves reviews the knowledge obtained by various means to date and concludes:

Anatomical evidence makes it probable but not incontestable that the ovary is an organ of internal secretion.

Infantilism is not result of ovarian deficiency but is local or general manifestation of hypoplasia constitutive in which the ovary may or may not share incidentally.

3. After sexual maturity the ovary exercises trophic influence over the other internal and external genital organs.

4. There is evidence to show that the ovaries preside over menstruation by an internal secretion which has selective action on the endometrium and that abnormal bleeding may be due to hypersecretion of the ovaries. This evidence is not yet testable.

5. Transplantation of ovarian tissue has not as yet proved to be of great practical value in the surgical treatment of gynecological patients.

6. Castration of sexually mature men directly causes vasomotor symptoms typified by hot flashes in 86% of cases.

7. Definite psychoneuroses are not directly caused by castration but such symptoms if present precede other causes that produce psychical or mental pain or discomfort.

8. Ovarian extract is invaluable in the treatment of the vasomotor disturbances following castration. Its value in the treatment of other gynecological conditions is problematical.

N. S. HANSEN.

Lauriers. Metastatic Sarcoma of the Broad Ligament Associated with Fibromyoma of the Uterus (Sarcome à métastases du ligament large associé à un fibro-myome de l'utérus). *Bull. Acad. roy. de méd. de Belg.* 93, xvii, N.

By Journal de Chirurgie.

A nulliparous woman of 54 with a large fibroid of the uterus had also a small node the size of a pea which was movable beneath the skin and was situated in the midline in the epigastric region. Lauriers excised this node first and then enucleated the uterine fibroma. In doing this he found a nodular tumor situated at the base of the left broad ligament and not connected with the uterus. By microscopic examination, this tumor and the subcutaneous nodule were found to be similar. They were both spindle-cell sarcomas the nodule being metastatic growth. The patient recovered and was apparently in perfect health, but died three months later from multiple pulmonary metastases. The interesting thing about this case was the coexistence of large benign fibroid of the uterus and small sarcoma of the broad ligament which were different grossly and histologically and in no way connected. L. M. VAN.

McIlvorrow. Some Old Pelvic Inflammatory Diseases, Their Non-surgical Treatment, with Report of Cases. *J Am M Soc* 9, 3, 1906.
By Surg. Gynec. & Obst.

The author discusses the use of massage in the treatment of selected cases of chronic pelvic inflammatory disease and gives his results. In this procedure he uses a series of movements. He states that his method is that adopted by the general hospital in Vienna for the same condition.

With the index and middle fingers of the left hand he presses and supports the cervix by lifting it up, while with the right hand on the abdomen he massages the uterus by a series of gentle rotary movements. These movements are performed:

1st time: the first treatment and if no improvement follows in the next day or two he continues the same treatment for three times each. If the patient is relieved of her symptoms. If it is not then even in patients with rigid bony pelvis the posterior wall of the uterus may be massaged and retroverted uterus put in proper position by gentle stretching of the round ligament band and lengthening of the broad ligament. But much labor is thus avoided. 2nd improved exudation and circulation. The heat of the bath method is applied to the uterus. Chronic peritonitis and parametritis but that pelvic mass is isolated and undisturbed. In inflammatory condition antipyretics and antispasmodics are given. If portio is very hard and difficult to be felt through undisturbed uterus, it may be drawn out and how often it may be rubbed by the finger.

In the third series of cases it is stated that he has succeeded in relieving the symptoms of backache and general pelvic tenderness, so that he has been able permanently to establish normal menstruation. Patients who have been troubled with painful periods and irregularity of menstruation discharge.

EXTERNAL GENITALIA

Bandelier. Vaginal surgery. *N Y M J* 9, 1906.
By Surg. Gynec. & Obst.

A tensor colpotomy, posterior colporrhaphy and vaginal hysterectomy with the other modifications and all variations of these are described. He also describes a method for the purpose of completely separating the bladder from the anterior vaginal wall and cervix so that it is practically free except its attachment to the uterus and retracts thereby rendering the pelvic cavity more accessible. He uses the tensor colpotomy to perform vaginal fixation, remove tubal gestations or ruptured ovaries, remove the cervix or the uterus entirely. He narrows the menopause of the vagina by high colporrhaphy and resection of most all posterior vaginal wall. He then inserts a

anal muscle suture and fixes the upper part of the anal made posterior vaginal wall. He also the upper border of the newly altered levator ani muscles. He also corrects the middle of the posterior vaginal wall transverse fascial and muscular all high. He keeps the cervix up here it belongs. This is an essential point in the permanent cure of prolapse.

Bandelier advocates the use of clamps in vaginal hysterectomy under the following conditions: whenever the cervix is desired or the uterus is very long and broad ligament retracted here the broad ligaments are infiltrated with morcellement irrigated area of tenne tissue is left attached to the broad ligament or here the fundulo-pelvic ligament is short. At the conclusion of the operation the vagina is packed with gauze in such way as to surround the clamps and prevent them from pressing against the vaginal walls and perineum. The clamps are supported by silk straps of adhesive plaster attached to the thighs. After the legs have been extended. This also prevents them from pressing the external genitalia. The clamps are removed the next day at 48 hours without disturbing the patient from her bed. Schmitt.

Robb. Examination of the Pelvic Organs in Doubtful Cases Through a Gluteal Incision. *Cleveland M J* 3, 1906.

By Surg. Gynec. & Obst.

The author refers to the difficulties encountered in making correct diagnosis by bimanual examination. Considering the dangers of an exploratory laparotomy he advises exploration through incision of the posterior vaginal wall and illustrates the correctness of his procedure by the histories and vaginal explorations of 6 cases. If indications exist he immediately follows the gluteal exploration operation by laparotomy.

His conclusions are as follows: If doubt exists as to the necessity of abdominal operation explore the pelvis through incision of the posterior vaginal fornix. Many unnecessary abdominal operations will be avoided if this procedure is here as often times marked inflammatory conditions will be made out which otherwise would have escaped our notice and which indicates necessary operation. Another feature is that different structures can be separated through posterior colpotomy thus doing away with the necessity of an abdominal operation altogether. Henry Schmitt.

Finlayson. Gonorrheal Vaginitis Treated by Vaccine. *Med Press & Circ* 9, 1906, 385.

By Surg. Gynec. & Obst.

The author reports six cases of gonorrheal vaginitis in which he used vaccine treatment. Four cases cleared up uninterrupted from the beginning of treatment, the other 2 improved, but some relapsed, one of these finally seemed perfectly cured the other is under treatment. He believes that the best results follow the use of

vaccines from new cultures and that one should begin with a dose of 4 or 5 million and increase to a maximum of 10 million for adults—and a smaller dose for children. He is impressed with the results shown and expects to continue in future cases. Great care was employed in establishing the diagnosis in each case. C. H. D. vs.

Lothrop: An Operation for the Cure of Vaginal Hernia. *Boston M. & S. J.* 9, 3, column 578.
By Surg. G. W. C. & Obst.

The author reports an interesting case of vaginal hernia and gives the technique of his operation. The patient had twice before been operated for supposed rectocele. The hernia sac contained small intestine.

Technique of perineal. The patient was placed in the Trendelenburg position and the abdomen opened by median incision; the intestines then being packed away with long gauze strips. The broad ligaments were divided close to the uterus, the anterior half of which was removed down to the cervix, the uterine canal being included in this excised portion. The broad ligaments of the remaining half of the uterus were utilized later to help form support to the floor of the pelvis. The peritoneum was dissected from the lining of the sac and deeper portion of the pelvis. A transverse incision was made at the level of the cervix, anterior and just behind it, and continued in front across to either side of the pelvis. The posterior edge of the peritoneum was then dissected up and the stripping continued until the rectum and the floor of the pelvis were exposed. The vaginal all was then pushed down out of the vulva. A pelvic floor was made by suturing with chromicized catgut the broad ligament stretched horizontally across the pelvis and overlapped. The remaining half of the uterus was tilted back over the ligaments, and its two free corners sutured to the pelvic fascia on either side of the rectum, leaving just room for passage of the rectum. The peritoneum was closed over this new floor and the abdomen closed. The excess of tissue of the vagina was removed as in the ordinary splitting operation for rectocele. The patient was kept in bed four weeks. From the result as seen three months later the author believes the vaginal hernia is cured. C. H. D. vs.

Buiford: Large Urethral Caruncle in Girl of Nine Years; A Preliminary Note with Summary of the Subject. *J. Am. M. Ass.* 9, 3, 14.
By Surg. G. W. C. & Obst.

Buiford reports the case of a girl aged nine years who was admitted to the hospital in May 9. One year previously she had fallen down stairs while roller-skating. Ten days after the accident the mother discovered that there had been bleeding about the vulva, and on examination found in the region of the urethra a mass about the size of the end of her thumb protruding from the labia. During this year the size of the tumor had not changed,

although it had been treated by a number of physicians. A purulent discharge was always present but there was no itching and no discomfort or urination. The tumor-base extended almost all over the circumference of the urethral canal and up into the urethra for about a quarter of an inch. The surface was not eroded, and there was no tumor of the bladder. No pus could be expressed from the Skene or Bartholin glands. A purulent discharge from the urethra kept the parts moist. Vaginal smears were negative for the gonococcus though they were found later. The tumor was excised well outside of its borders and the surrounding skin drawn into the meatus and stitched with horse-hair. Primary union took place and there had been no recurrence up to November 9.

The author refers to the complete bibliography of Williamson and Alter for the literature on this subject.

These tumors are covered by epithelium are usually about the size of split peas, may be pedunculated or flat-based and are usually located on the lower half of the urethral ridge. They occur more frequently in multiparae and are rarely large in girls. Some cause pain of a severe nature, others are devoid of sensation.

Their etiology is uncertain, though the retention of droplets of urine in the urethral canal with the resulting irritation and tissue changes is probably a factor in their development.

The most satisfactory treatment of this condition is complete excision well outside and below the tumor. If they are not completely removed they tend to recur. C. D. Howes.

MISCELLANEOUS

Kerme: *Der* The Etiology of Gynatresias (*Zur Ätiologie der Gynatresien*). *Beitr. z. Geburtsh. u. Gynäk.* 9, 3, 116, 37.
By Zentralbl. f. d. ges. G. u. Obst. Geburtsh. u. Gynäk.

Partial atresias are congenital or acquired. The postnatal causes have not been proven in numerous instances. Kossmaul's theory that an inflammation of the vagina of foetal origin results in inflammatory adhesions and obliterations is untenable. The belief that hymenial atresia is congenital is tenable, but how is it to be explained? The author assumes that at some time during the foetal life certain cells undergo coagulation necrosis as a result of some chemical influence, thus the part depending on those cells is retarded in its development. Either a stenosis or an atresia is seen, depending on the grade of development of Müllerian ducts.

The size and character of the hematomas of the thickening and irregular formation of its walls, all speak for an excessive growth of the internal genitalia above the atresia. A hematocolpos develops first and gradually changes into a hematomatocolpos on account of the marked exfoliation and secretion of the hypertrophic mucous membrane. By adaptation to surroundings the development of large tumors can

occur with any clinical phenomenon. Atresias are frequently accompanied by hematosalpinx. It is almost always associated with torsion of the abdominal tubal ostia and dependent on peritoneal adhesions. A genuine infection is not to be assumed although the content of the hematocolpos, gaining entrance to the abdominal cavity through the tube, will set up an irritative peritonitis. The variable size of the tube is low and high atresia is explained as being the result of excessive growth of this organ with the formation of hydrosalpinx. *Mims*

Beil: Genital Functions of the Ductless Glands in the Female. *Lancet* Lond. 93 chron. 809
By Surg., Gynec. & Obst.

This is the first of two lectures on the subject. The author believes that should look upon all the ductless glands as genital glands, as each is absolutely indispensable to the harmony of the genital functions. From his study of the ovary in various animals he draws the provisional conclusion that, if the corpus luteum be an organ of internal secretion, which assists in the implantation of the ovum, the importance of it varies with different species and probably has more than one function.

He made careful study on cats of the effects of oophorectomy on general metabolism. In study of the rat it was found that while the specific gravity remained nearly the same after operation the calcium secretion was diminished by half, the chlorides are slightly diminished while the phosphorus excretion, total nitrogen and urea percentages are much increased. This supports the belief that the ovaries take an active part in promoting the excretion of calcium especially in connection with menstruation and explains why oophorectomy may aid in the cure of osteomalacia. The differences in the effects of oophorectomy in women are he thinks due to the individual variation between the adjustments of the internal secretion. Oophorectomy causes more marked reaction in rodents than in other mammals. In his cats he found the thymus larger after oophorectomy than in the normal adult animal. He believes that the pituitary body must be considered as *one* organ and not two. The effects of oophorectomy on the pituitary are more or less temporary and in no way comparable with the genital lesions seen after partial removal of this gland. These effects are not comparable with those found in pregnancy.

Total ovarian insufficiency arouses increased activity in most, if not all of the other ductless glands. *C. H. D. vs.*

Beil: The Genital Functions of the Ductless Glands in the Female. *Lancet*, Lond. 93 chron. 937
By Surg., Gynec. & Obst.

The author has in this lecture considered the effect of removal of the various ductless glands, other than the ovary on the remaining members, and the general metabolism in so far as it is directly related to the genital functions.

He believes that rodents have less need of the thyroid than other mammals, such as the carnivora, and that this is due in some measure to the variations in the structure and function of the other ductless glands. His experiments on pregnant cats are in favor of the possibility that in the latter half of pregnancy the secretion of the fetal thyroid may be conveyed to the mother. He does not believe that the thyroid is in any way specifically connected with the production of eclampsia. Thyroidectomy calls for response from the ovary just as oophorectomy from the thyroid. The nature of this response brings forth evidence that the granulosa cells of the Graafian follicle form an organ of internal secretion. The uterus atrophies to considerable extent. Thyroidectomy stimulates the suprarenal cortex to excessive secretion, and this no doubt tends to produce calcium retention and to prevent excretion. It causes an increase in the secretory activity of all parts of the pituitary body.

The pineal gland has never been successfully removed from mammals, so the only direct evidence is that obtained clinically. A few years ago the one with Dale and Dick, showed that extract of posterior lobe produces powerful uterine contractions. The observations after partial removal of the pituitary are very confusing and the author believes that these can only be dispelled by considering the entire gland as one organ.

It appears that the thymus either inhibits the development of the ovaries (Bledl) or that their development follows the withdrawal of the thymus secretion. Little is known concerning the relation of the thymus to the general metabolism.

In most mammals complete removal of the suprarenals causes death in from a few hours to a few days but with the unilateral removal the author obtained some interesting results with regard to metabolism in the rabbits. In one, the average quantity of calcium excreted after operation was seven times as great as before, and in the other it was sixteen times as much. The phosphorus was much increased but not in the proportion one might have expected. The urea, as increased out of the proportion to the difference between the specific gravities. A study of the pituitary body appeared to indicate that an attempt is made to counterbalance the loss of adrenin by the rapid production of infundibulin. There appeared to be no histological changes of importance in the ovaries, but there was evidence of muscular atrophy in the uterus.

The ovary is only concerned in the temporary function of reproducing the species, and by its hormones, or internal secretion of bending the metabolism of the body to its purpose. When the reproductive functions cease and the ovaries atrophy to the menopause the harmony that previously existed between the general and the genital metabolism is temporarily deranged, and various disturbances may ensue. And it is only by the careful investigation of each menopausal case that one can arrive at determination of the manner in which

the balance has been lost. Some patients react to thyroid extract, some to pituitary, others to combinations so great are the individual variations. In most cases, natural readjustment takes place in the course of time. C. H. D. via

Smith: The Prognostic Value of the Leucocyte Count in Pelvic Suppurative Conditions. *Surg. Gynec. & Obst.* 9:3, 211, 403.
By Surg., Gynec. & Obst.

The histories of one hundred unselected cases of pelvic suppurative conditions of various kinds are studied. In all of these, leucocyte count had been made as routine procedure upon the admission of the patient. These give perceptive leucocyte count are tabulated in their relation to the post-operative progress of the patient as regards temperature, pulse, complications, secondary operations, and the like. The question is raised as to whether or not the leucocyte count affords better basis for the establishment of prognosis than the temperature, the pain, and the like. Where the leucocyte count is high upon admission, even though the temperature was low, the patient was shown to have a high coagulability nearly as frequently as when the pre-operative temperature was as high but the leucocyte count low. The same relation though somewhat less marked, is times as shown in the development of other post-operative complications—mortality, rapid pulse, secondary infections, and the like. The conclusion is reached that, at least in this group of cases, the leucocyte count is a markedly more prognostic value than the pre-operative temperature.

Alpert: Reflex Pains on Pressure of Cervical Plexus in Inflammations of Female Genitals. *Rückförmige Schmerzempfindungen bei Druck auf den Plexus cervicalis bei entzündlichen Erkrankungen der weiblichen Geschlechtsorgane.* *Zentralbl. f. Gynäk.* 9:3, 212, 214.
B. Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Alpert examined 500 women whom pressure was applied to the cervical plexus. He comes to the following conclusions: (1) When pain radiates to the epigastrium after pressure on the solar plexus, then the endometrium is involved. (2) When pain radiates to the symphysis, then the parametrium is involved. (3) When pain radiates to the right and left sides, the uterus is involved. (4) When pain radiates to the back, there is metritis or fibroids. (5) When there is pain directly under the finger the genital is not involved. The findings in 83 per cent of his cases were corroborated on operating. HENCK

Döbner: Enlargement of the Liver During Menstruation. (Vergrößerung der Leber während der Menstruation.) *Frank. Gaz., St. Petersburg.* 9:3, 212, 430.
B. Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author examined one hundred women and determined the size of the liver during and after

menstruation and found an enlargement by percussion varying from two and one half to four fingers breadth in nine cases, two fingers breadth in thirty-three cases, one and one half in eleven cases, and no finger in thirty-seven cases. An enlargement was found in two cases. Palpation elicited the same findings. In seventy-three women, the liver was painful, in twenty-four it was sensitive. In three it was normal. The enlargement persisted two to three days after cessation of menses. Between the menstrual periods the liver was of normal size. BRAUER

Hirschberg: Thigénol in Gynecological Treatment. (Das Thigénol in der gynäkologischen Therapie.) *Berlin. Wochenschr.* 9:3, 507.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Thigénol, compared to other sulphur preparations, has the advantages of being odorless and more easily absorbed by the skin and mucous membrane. It is especially adapted for tamponing, using a 50 per cent solution of thigénol in glycerine. The tampon must be changed every other day. In the meantime vaginal irrigations are ordered composed of table-spoonful of the 50 per cent solution in one liter of warm water. Thigénol proves which dissolve easily, the gaseous secretions are especially useful for the general practitioner. The preparation has also beneficial results in cases of salpingitis and chronic inflammations of the pelvis or next to these the adnexa and the pelvic peritoneum. The preparation subdued the inflammatory infection and increased the resolution was absorbed and abscesses of the pelvic organs gradually disappeared. Tampon treatment is contra-indicated in recent inflammations and purulent catarrhs. LUTZ

Heilmann: X-Ray Treatment in Gynecology. (Die gynäkologische Röntgen-therapie.) *Monatsschr. f. Geburtsh. Gynäk.* 9:3, 212, 213.
B. Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

After short review of the development of X-ray treatment in gynecology from the simple method of Albert-Schönberg to the intensive raying of the Freiburg clinic, minute description of the technique used in the Freiburg clinic is given. The apparatus consists of a 50 cm. induction coil and record interrupter with Rythmeur. Either Müller's water-cooled or Gundlach's coal-cooled tubes are used. The degree of hardness (0.5 Wehnelt) of the tube should be determined every 4 to 6 weeks. The time in which the tube causes an erythema must be found, measuring by either Wienböck's Sabouraud-Nour's method. The tube employed has a diameter of 1 cm. therefore the focal distance from the skin is 5 cm. The aluminum filter has a thickness of 3 mm. Thus by compression desensitization of the skin is caused. Five fields are regularly rayed: three on the anterior abdominal wall, middle, right and left, and two on the back, right and left. To each field one half of erythema dose is applied on five successive days.

There is a interval of eight days between the two series and the three cells after the third series. The treatment is given about regular menstruation.

In cases of menometrorrhagia as regards oligomenorrhea and amenorrhea are obtained a disappearance of the menstruation not observed but a marked decrease in size as seen in all. An average of 20 cases as used to obtain oligomenorrhea or menorrhea and the time of treatment is not one half to three months. The treatment is the preferred surgical castration because the symptoms of the premenstrual menopause not so uterine. The contraindications for surgical castration are suspicion of malignancy, large myomatous uterus, severe pressure symptoms, benign myomatous uterus, not just being expelled putrid and purulent myomatous vesicles in which positive diagnosis cannot be made and complications of the disease. The Röntgen treatment is not contraindicated in extreme cases of gonorrhea.

The uterine cancer and carcinoma of the cervix are the chief types of cancer of the female genital tract. These occur before 40 years of age. Oligomenorrhea and the retention of normal menstruation is obtained after a long continued irregular menstruation but 40 years become amenorrhea much more often. The average amount of cancer for the prevalence of amenorrhea in the latter is not found. Oligomenorrhea the former is as 30%. The duration of treatment is three months. A urethrotomy and hysterectomy examination of the removed tissues regularly precedes the treatment so not overlook upon the myoma. In early symptoms not observed and the disease is small. Three out of four cases are removed. A valve over each had been removed. The uterus remained in situ. The removal of the uterus after the treatment of the other patients with suppurative glands recurrently extended local extirpation of the cancer. The size of the tumors was increased during the long course.

Theilhaber. The Influence of the Social Factor Upon the Origin of Tumors. Der Einfluss der sozialen Lage auf die Entstehung von Geschwülsten. Arch. f. klin. u. exp. Med. 1907. By Zentralblatt für Gynäk. u. Geburtsh. u. Frauenheilk.

The author discusses in this work the influence of the social position on the origin of tumors of all organs. However, only that part which interests the gynecologist especially, as it concerns cancer of the reproductive organs, is considered here.

The present frequency of uterine cancer in

women married to restaurant keepers and butchers was observed from the cases of Theilhaber's clinic and the death certificates of the city of Munich and the Kingdom of Bavaria. The author explains this fact as due to the injurious influence of alcohol on the walls of the blood vessels and the blood circulation in the former and the large amount of meat consumed in the latter. These facts, however, are not conclusively proven. During the years 1875-79 only one death from uterine cancer occurred in every 1000 of population in the period 1900-1905, however, 1 death occurred. While the mortality of cancer decreased slightly during the same period, whether increase of carcinoma cases really occurred or whether it is only apparently on account of the improvement in diagnosis can not be stated definitely. Theilhaber has grouped his cases of cancer in menometrorrhagia according to the social position of his patients. He discovered that myomatous developed relatively frequently in cases of financiers, commercial men and factory owners, high officials, physicians and carpenters relatively infrequently. In the Theilhaber's clinic the author in conducting an investigation based on 293 cases of cancer of the uterus obtained from material of the Bureau of Statistics of Bavaria and the set of government statistics, arrived at the same conclusion. The author therefore places the hypothesis that cervical cancer (presumably 100 per cent of uterine cancers occur primary in the cervix) shows the opposite relation and that the frequency of uterine myomatous is in direct relation to the social condition of the patient. He has ascertained from his own clinical material that the much rarer corpus cancer is frequent in the altho not that cervical cancer if it does occur in the upper classes appears in much older age than amongst the poorer classes and finally that the wives of butchers and restaurant keepers are much more frequently affected with cancer and only rarely with myoma. According to Theilhaber it is his by his own clinical material as well as the records of death certificates of the city of Munich there is greater frequency of mammary cancer in the better situated men than amongst the poor. Theilhaber explains these facts as follows. The frequency of uterine cancer in the poorer classes is not dependent on the greater number of confinements in this section of population but upon the fact that the better situated women menstruate on average five years longer than the poorer women. In the congested uterus, myomatous develop more frequently whereas cancers develop in the poorly nourished organ. The better situated women suffer most frequently from cancer of the breast because they live more highly and are less frequently than the poorer women. Freuden.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Engelhorn. Biologic Diagnosis of Pregnancy (Zur biologischen Diagnose der Schwangerschaft). M. Schmidt und H. Kautsch. 93, 12, 357.
B. Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Engelhorn tested Abderhalden's pregnancy reaction with the dialysis method and the anhydrous reaction. Technically the serum must be free of hemolysis. Diffusion capsule No. 59 must be tested for albumin and pepsin. The placenta is extracted with ten times the amount of boiling water until the boiled water does not react with anhydrous. The blood was always taken at 4 P.M. The following tests were made each time: (1) placenta alone; (2) pregnancy serum; (3) pregnancy serum plus placenta; (4) serum of nonpregnant; (5) this serum plus placenta.

Results: Forty pregnant women, forty-nine gave positive and eleven negative results. Of forty-eight nonpregnant women, thirty-one were positive and seventeen negative. Besides placental tissue, amniotic and ovarian and liver tissues were tested. Twelve pregnant women reacted to the cancer test ten times positively and six negatively. Eleven nonpregnant women reacted eight times positively and three times negatively. Among them was one case of cancer. Three nonpregnant women reacted three times positively and three pregnant women once positively and twice negatively with ovarian tissue. With foetal liver different results were obtained. The author concludes that Abderhalden's dialysis method is not specific, reaction so that are not justified basing diagnosis on it. SCHNEIDER.

V. N. Tussenbroek. Influence of Pregnancy on the Death Rate of Tuberculosis in the Netherlands. (Invloed van de Zwangerschap op de Sterftecijfer van de Tuberculose in Nederland). Nederl. Geneesk. Ges. Scheveningen. 93, Feb.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Tussenbroek tabulates the Dutch material from 865,100 for four large and five smaller cities according to the method of Weinberg. Of the four large cities 43 of 8,349 puerperae (or 3.4 in each ten thousand) died, while in the sixteen towns the deaths numbered 678,867 (or 3.8 in each ten thousand). The general death rate of tuberculosis in the four large cities is 64 in 878.4 deaths or 26.40 per 1,000, while the monthly death rate is per 1,000. The monthly death rate in the puerperium was 3.4 per 1,000. It follows that of three women dying during the puerperium one must succumb to tuberculosis. The influence of pregnancy and the puerperium on tuberculosis may be active also after the first month. To prove

this the author collected 209 cases of women in Amsterdam who died from tuberculosis, 7 of whom had children while 90 were married and childless and 49 were single. Of these 74 died within one year after the last labor. In other words 209 of 4213 women died from tuberculosis, or 28.6 per 1,000 and 74 of 64,37 recent mothers or 7.3 per 1,000. The tuberculosis mortality post-partum is practically somewhat smaller than the general tuberculosis mortality. This supports the fact that the tuberculosis mortality is increased the first month after labor is explained by a careful investigation from month to month from birth it follows that of the 74 deaths occurred during the first half year (in 64,37 or 7.34 per 1,000) and only 63 during the second half year (63 in 64,37 or 0.79 per 1,000). The general mortality (8.6 per 1,000) amounts to 4.3 per 1,000 for each half year. The tuberculosis mortality post-partum therefore is much higher during the first and much lower during the second half year. The increased mortality during the first half year is evened up by the lowered mortality during the second half year. The same facts hold good for Amsterdam as Weinberg determined for Saxony and Ugar. The first year post-partum does not decrease the tuberculosis mortality. The mortality from tuberculosis in Amsterdam in the married (of 800 only 90 were childless) and the unmarried is 0.000 living as follows:

	863	873	885	895	900
Married	454	435	35	243	3
Unmarried	37	35	5	20	88

The decrease mortality greater among the unmarried, may be explained by social conditions, especially by the more favorable conditions for the unmarried women come to live with tuberculous men. It also proves that the tuberculosis mortality of women does not become more favorable after the menopause. VAN DE.

Sampson. The Influence of Ectopic Pregnancy on the Blood Supply of the Uterus. With Special References to Uterine Bleeding; Based on the Study of 28 Injected Uteri Associated With Ectopic Pregnancy. T. Am. Gynec. Ass. 93, May.
By Surg. Gynec. & Obst.

The author stated that as a result of ectopic pregnancy the uterus was enlarged, due mainly to hyperemia and thickening of the endometrium. The changes in the latter were similar to those found in the decidua vera of early uterine pregnancy and apparently due to arterial invasion from the terminal branches of the uterine artery. The

venous spaces of the endometrium were dilated and this dilatation was most marked in the superficial portion of the compact layer and at its junction with the spongy layer. The termination of the pregnancy as followed by involution of the uterus.

The first step in the involution of the endometrium as seen in the greater dilatation of the venous spaces, probably due to regional changes in the stroma and apparently dependent upon diminished supply of arterial blood. The arteries were less evident during involution of the uterus. The dilatation of the venous spaces was followed by the escape of venous blood in the tissues of the endometrium. If the superficial venous spaces of the compact layer gave way the blood would escape into the uterine cavity without the formation of decidua cast. On the other hand, if the venous spaces at the junction of the compact and spongy layer gave way the extravasation of blood could occur mainly between these two layers, and the compact layer would be expelled as decidua cast. In times of excessive changes caused and were followed by reparative processes which as apparently dependent upon the respiration of the arterial supply of the endometrium. The involution following the termination of tubal pregnancy was very similar to that following uterine pregnancy differing only in degree.

In the vast majority of cases of ectopic pregnancy the complete termination of the pregnancy was gradual process often taking several days or weeks—ten weeks or more in seventeen of the twenty-five cases at died. When operated upon the uterus had been and might still receive stimuli from two distinct antagonistic sources, namely pregnancy and involution. The condition present in any case depended upon which of these sources predominated and to what extent it had been and was influenced by the other.

The uterine bleeding as of venous origin from the venous plexus of the endometrium due to regional changes in the latter apparently dependent upon diminished arterial supply. Muscular laceration might also contribute to this. The bleeding continued as long as the pregnancy (products of conception) interfered with the process of involution. It was probably analogous to the bleeding subinvolution of the uterus due to incomplete abortion.

In discussion, HARRIS said that to one who had performed a good many operations for ectopic gestation, it is as interesting to have this unquestionable demonstration of the changes which occurred in the uterus. Of what practical use is the uterus after operating upon patient for an ectopic gestation. According to Smith and others the number is exceedingly small, not more than four or five men after being operated for ectopic gestation having given birth to children. Possibly there are four out of the 25 on whom he operated. Of thirteen of these the ectopic gestation was recurrent. The only point which

came to his mind now as better in order to secure only four or five flappings in possibly 25 cases, we should save the uterus, not sacrifice menstruation, if the vital interest in future offspring.

SAMPSON in closing the discussion, said in eleven cases of the series, the uterus as retained beneath the opposite tube was examined, because the women wished to have children. In every case he talked over the possibility of children before operating. He had followed the history of these eleven cases, five of them had not become pregnant, although in two of them only a few months had elapsed since the operation. Two had borne children, one to and the other one, and the one who had one child subsequently had tubal pregnancy in the opposite side. Three had had miscarriages, although they claimed they desired to have children. One had three miscarriages and the other two had one each. Another the sixth one, had tubal pregnancy in the opposite side making a case of repeated tubal pregnancy in the eleven cases which at the time of operation, the tube which was the seat of the second ectopic gestation was apparently normal, and which was retained with the hope that the woman would have child subsequently. He had encountered two other cases of repeated ectopic pregnancy in which the first operation as done by another operator so that he did not know the condition of the tube at that time. He was perfectly willing to preserve the tube and the possibility of future conception in every patient, so desiring to have children. On the other hand, if he found the opposite tube was diseased, and especially if a number of these women were fairly well advanced in years, that is 35 or 40 and had had their share of children, he thought we should every way make these patients just as well as we possibly could for the rest of their lives, and save them all future trouble. He could see very little use in leaving behind uterus which might have been the seat of inflammatory trouble or adhesions about it as the result of operation if it was only going to cause trouble.

In regard to bleeding without pain all but one of these patients gave history of tertile bleeding at some time during the illness. In one case the bleeding preceded the pain for three or four weeks and he could not account for it except probably there was the beginning of the termination of pregnancy in which the bleeding between the gestation sac and the wall of the tube was not sufficient to give rise to any serious symptoms.

In regard to preserving the ovaries, in nearly every instance an ovary was preserved.

Andrews, Ectopic Pregnancy Occurring Twice
In the Same Patient. *Annals of Gynec. & Obst.*,
1904, 3.
By Surg. Clyde C. O'Neil.

The author reports a case which is of interest because of its rarity and the wholly different train of symptoms. On the first occasion pain was moderate, hemorrhage rather free and constant.

temperature elevated to 102.8° and distinct swelling in the position of the tube. Curettement relieved the symptoms, including the swelling. The scraping showed that appeared grossly as placental debris. Two weeks later a sudden increase of pain and illness took place and the author operated through the vagina. The mass was tubal mole in the left side.

Ten years later he was called to see the patient again. Her pain was intense and vomitings referred to the appendiceal region, and toward the kidney, there was no hemorrhage, swelling, nor rise of temperature. Even then complete cast of the uterus discharged after an amenorrhoea of about ten weeks, there was little bleeding. She had several attacks of pain and after nearly seven weeks consented to operation. A complete conception was found in the pouch of Douglas. The right tube was extended across the back of the uterus, and its tubular extremity held quantity of placental tissue. The patient made smooth recovery after removal of the tube and blood clot. She had no child nine years before the first ectopia.

C. H. D. via.

Chloroma. A Case of Ruptured Very Early Primary Ovarian Pregnancy. *Edinb Med J* 9 3 2, 1915.
By Serg. Gyrec. & Obst.

The case here reported complies with the conditions laid down by Spiegelberg and by Williams but only partially conforms to norms demanded that the tube on the affected side shall not only be intact but shall be microscopically free from evidence of gestation. Chene did not remove the tube in his case as the patient condition did not warrant unnecessary exploration. The tube of the affected part of the ovary are in no way connected.

The patient, 34 years old with entirely normal menstrual history. Three days before admission to the Edinburgh Royal Infirmary she had been suddenly seized with severe abdominal pain chiefly on the right side. Next day she took castor oil and felt better. On the fourth day the pain returned persisting after a enema, and diagnosis of appendicitis was made. There was no nausea or vomiting and no chills. Temperature 99.40° , pulse 120 small and feeble. The patient had had six children youngest two and one half years old, but no miscarriages or previous pelvic trouble. The women was slightly disturbed tender all over especially the right iliac fossa, but no muscular rigidity. Vaginally the great tenderness made findings doubtful. Rectally tenderness as marked and distinct fullness as noticed in the pouch of Douglas. Exploratory laparotomy as performed and the peritoneal cavity as found to be full of blood, partly clotted partly fluid. The right tube was normal but mass the size of cherry as found protruding from the uterine end of the right ovary on half inch away from the fimbriated end of the tube. This was removed. The left appendage normal, as was the appendix. The uterus

was normal in size. Serial sections of the involved end of the ovary showed chorionic villi present in the blood clot. No embryo was discovered and in no section did the villi encroach on the ovarian stroma. No corpus luteum nor luteal cells nor decidua were seen. In all probability the pregnancy was one of either ten or twenty days duration.

CARRY CULBERTSON

Spizdel. Eclampsia; With Report of Three Very Unusual Cases. *K M J* 9 3 21, 1915.
By Serg. Gyrec. & Obst.

The author reviews the recent theories regarding the cause of eclampsia and discusses the various methods of treatment which he employed. He believes in evacuation but in the first case which he reports invasion of the media basalis, both arms only resulted in the coming out of 5 or 6 drops of gray blood. The patient died one hour later. The blood pressure in this case was only 3 mm Hg. In the second case the blood pressure rose to 3 mm in October. The first week of December the blood pressure was 8 mm and induction of labor was advised. December 6 the patient could scarcely walk and the blood pressure was 3 mm. Labor as now induced by use of a large catheter. The child died and the mother is in prison. She had severe eclampsia in her first pregnancy and as blood pressure three weeks thereafter. The third case, haemophiliac had a coarctation December 6. A threatened specimen of urine contained no albumen. Her blood pressure after coarctation was only 15 mm. The next day 1 mm and the third day 0.5 mm. She lost the use of the left arm and leg on the third day. The cervix as dilated with Voorbees bag and premature child delivered by cesarean. After 4 hours the man had blood pressure of 88 mm. His serum was given to aid in prevention of hemorrhage.

C. H. D. via.

A. biola. Cases of Atypical Eclampsia (Cases de eclampsia atypica). *Rev d med* 17 9 3, XVII, 1915.

By Zentrall. d. g. Gynak. Geburth. d. Gynaecol.

Three interesting atypical cases of eclampsia follow. (1) Eclampsia 6 hours after labor the urine such as normal 6 hours previous, contained 33.5 percent of albumin. There was slight oedema of the ankles. Within two hours there were six convulsions and from then on only traces of eclampsia. The patient recovered.

(2) Combination of epilepsy (which dated from childhood) and was aggravated during pregnancy and eclampsia during the second pregnancy. Forced delivery thus failed. The post-mortem examination showed localized focus in the brain, the result of former hemorrhage. Unfortunately the anatomical changes which might be referable to the eclampsia were not given.

(3) Eclampsia with unusual severe convulsions, resulting in death 8 hours after the first attack and

during forced extraction. There was positively no trace of albumin in the urine three or four days before the attack. SCHÖN.

Bruce-Bays Pylonephritis of Pregnancy. *Sa. African M J* 9 3, 21, 16.

By Surg. O nec. & Obst.

Bruce Bays discusses the etiology, diagnosis, prognosis and treatment of pyelonephritis of pregnancy and illustrates the article with a case report. The diagnosis is based on the bacteriologic examination of the urine which usually shows the bacillus coli to be the exciting agent. The bacillus has a tendency to persist. If ordinary means of treatment fail to give results an toxicous vaccine prepared from the urinary bacteria should be used. Finally the author mentions the fact that puerperal infections from pyelonephritis are uncommon. If pyrexia occurs during pregnancy the former being associated with pneumonia and bronchitis, he should think of the possibility of the presence of this disease. The induction of abortion or premature labor is never indicated, as correct treatment usually permits the pregnancy to be terminated in natural manner. HENRI SCHÖN.

Jacobi Pulmonary Tuberculosis of the Pregnant Woman. *N Y St J M* 9 3, 21, 92.

By Surg., Gynec. & Obst.

The author utilizes the prevention of conception and treatment of tuberculous women, and would prohibit marriage until the tuberculosis is cured. If married he could prevent conception by the use of the condom or of vaginal injections of slightly acid substances immediately after coitus. As pregnancy in a tuberculous woman is a very grave danger interruption has been recommended. The earlier this is done the lower the mortality. It does not divide the modern extensive operations, as for instance that recommended by Martin. The object of destroying the bacillus nest in the uterus could be accomplished by the use of intra-uterine irrigations of strong solutions of carbolic acid or potassium permanganate. HENRI SCHÖN.

Kohn The Influence of Pregnancy Labor and Puerperium on Tuberculosis (Ueber den Einfluss der Generationenorgane auf die Lungentuberculose). *Beitr. Klin. u. Prakt. Gyn.* 9 3, 21, 7.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Gynäk.

The author briefly reviews the literature of the subject for the last years and reports twenty-two cases in which the effect of pregnancy, labor and the puerperium on the course of tuberculosis as carefully watched. In sixteen cases no detrimental influence was demonstrated to some extent even an improvement was noticed. In seven cases a tendency towards wasting as observed during pregnancy but the more advanced processes were not always detrimentally affected. Among the cases in which an unfavorable effect was noticeable, there were two in which the progressive character of the

tuberculosis did not manifest itself until nine to twelve months after the last confinement, so that the change for the worse could not positively be attributed to the effect of the pregnancy.

These favorable results are of considerable importance considering the fact that the involvement of the lungs was no longer in its incipency. Although only a small number of cases is presented the author concludes that prevention of conception is hardly to be advocated in phthisical subjects, and the induction of abortion is not indicated. On the other hand nursing should be interdicted, and the acceptance of the tuberculous pregnant women in the sanatoriums is urgently requested. HENRI SCHÖN.

LABOR AND ITS COMPLICATIONS

Krug A New Manipulation During Labor (Ein neuer Handgriff bei Entbindungen). *Zentralbl. f. Gynäk.* 9 3, 21, 4 2.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

The author reviews the manipulation he had previously proposed because of the favorable results he obtained by this method in cases of protracted labor. The patient is placed on a table (or transversely in bed) with the buttocks brought near the edge, the legs are spread and flexed, the obstetrician then places the three middle fingers of his right hand against the inner surface of the right tub. ischii and the three middle fingers of his left hand in the corresponding location of the left tub. ischii, thus the hands are crossed at the wrists. During labor pains the six fingers, by means of the leverage of the crossed hands, make a firm pressure in the direction of the transverse diameter of the pelvis, slightly lifting and widening the pelvis thus making the passing of the head easier. HENRI SCHÖN.

White The Contraction Ring as Cause of Dystocia with Description of Specimens Removed by Hysterectomy During Labor. *Lancet, Lond.* 19 3, 21, 604.

By Surg. Gynec. & Obst.

The author gives the following differential diagnosis:

CONTRACTION RING

A localized thickening of the wall of the uterus due to the contraction of the circular fibres over point of slight resistance, most frequently over depression of the child's outline or below the present bag part.

1. The uterine wall at the site of the contraction ring will therefore be thicker than it is either above or below.

2. The part below is neither thinned nor distended.

3. The presenting part is not forcibly driven into the pelvis.

4. The child may be wholly or mainly above the contraction ring.

5. The body of the uterus above contraction ring is usually relaxed and not tender.

7. Round ligaments are not tense.
8. A contraction ring may occur in the first, second, or third stage of labor.
9. A contraction ring does not vary in position as labor goes on.
10. A contraction ring is rarely felt on abdominal examination.
11. The patient's general condition is good.
12. Causation: premature rupture of the membranes intra-uterine manipulations.

RETRACTION RING

1. The junction of the thinned lower uterine segment with the thick retracted upper uterine segment.
2. The uterine wall above the retraction ring is much thicker than it is below.
3. The wall below retraction ring is both thinned and over-distended.
4. The presenting part is or has been jammed into the pelvis.
5. Part of the child must be below the retraction ring.
6. The body above a retraction ring is tonically contracted and hard.
7. Round ligaments stand out.
8. A retraction ring practically always occurs late in the second stage of labor.
9. A retraction ring gradually rises as retraction of the upper uterine segment proceeds.
10. A retraction ring may frequently be felt per abdomen.

1. The patient's general condition is bad.
- Causation: retracted labor.

The author discusses the causes and differential diagnosis. In the series of cases which he has studied excluding laparotomy cases, there is maternal mortality of 38% and a fetal of 65%. In 19 cases, treated by laparotomy, excluding on death from eclampsia, the mortality is 31.5 and 48%. He gives the history of three cases which came under his observation. He believes that expectant treatment is useless and drugs of little value. Cesarean section is indicated where the ring is wholly below a living child, and it is preferable to embryotomy in the other cases if simple traction or manual dilatation fails and the child is alive. All extra-peritoneal Cesarean sections are contra-indicated and in septal cases the operations indicated are Cesarean section followed by hysterectomy if the child is alive or excision of the gravid uterus unperformed if the child is dead. C. H. Davis.

Vogt: A Hematoma of the Abdominal Wall Developing During Labor (Über ein unter der Geburt entstandenes Bauchdeckenhematom). *Zentralbl. f. Gynäk.* 9. J. 1906, 493.

By Zentralbl. f. d. ges. Gynäk. Oebertsch. u. d. Grenzgeb.

Stöckel: two cases are mentioned, these having developed through coughing spells during pregnancy and treated by incision and drainage. The author's case developed spontaneously during labor. This

seems to be the only case known. Some hours post partum the patient complained of severe pain above the symphysis. Palpation revealed two symmetrical tumors at the insertion of the recti. The white line divided them and the tumors were probably in the rectus sheath. The size increased for three days, and then resolution began. The treatment instituted aided resorption. When the patient left the hospital on the twenty first day the tumor was still palpable. It disappeared four weeks later.

The etiology was obscure. There was no cough, flux or hemorrhagic diathesis. There had been no infection, intoxication or trauma. In the differential diagnosis, the only other condition to consider is double-sided paravascular hematoma. It is of value to medical jurisprudence to know that such tumor may have a spontaneous growth.

FOURCK.

PURPERIUM AND ITS COMPLICATIONS

Gibbons: The Etiology and Treatment of Puerperal Eclampsia. *Brit. M. J.* 1913, 1, 805.

By Surg. Gynec. & Obst.

The author gives a review of the types and possible causes of eclampsia. More than half of the paper is given to methods of treatment. His statistics are of considerable interest.

He draws the following conclusions:

First, that in spite of all the labor which has been spent upon investigations, nothing can be definitely stated about the cause of the disease, although everything seems to point to poison circulating in the blood. Second, without any doubt, recent statistics show that the best treatment is that of rapidly emptying the uterus (by the safest means) after the first few convulsions. Third, the greater the delay in carrying out this treatment after the onset of the first convulsion, the greater will be the danger to the woman and child. C. H. Davis.

McDonald: Puerperal Infection from the Gonococcus. *Am. Med.* 1913, 2, 212, 77.

By Surg. Gynec. & Obst.

McDonald reports a case of gonococcus infection after childbirth and he believes that this form of infection is much more common in maternity practice than is usually suspected. He found it present in ten per cent of cases of puerperal infection studied bacteriologically and believes that the percentage would, if carefully studied, amount to one third of all cases. The great difficulty up to the present time has been in obtaining free cultural growths of the organism.

In a series of seventeen cases reported the organism was seldom found before the fifth day. Of these eight had fever above 100° F and twelve above 100° F. Both McDonald and Gurd have found that the association of gonococcus and streptococcus increases the virulence of both organisms.

However, gonococcus puerperal infection usually runs a mild course with a comparatively low grade

those where the vague pains over the kidney with pus in the urine and gradual loss of weight and strength are present—those with pyuria and marked rise in tempera- re—these are usually cases of mixed infection—those with sudden initial haematuria—next, those presenting as the chief symptom—renal tumor without any symptoms—the closed tuberculous hydro- or pyonephrosis cases and finally those cases in which perinephritic abscess of unknown origin occurs.

The question of diagnosis and examination including cystoscopy and ureteral catheterization is discussed.

The X-ray is of little value when the so-called putty kidney is present. The shadows thus obtained may sim- late the presence of stones. Calcification of tuberculous area in any portion of the kidney may also simulate stones.

In regard to treatment, the author believes that the non-operative method is applicable to but few cases. He quotes the statistics of Wilksholm, in which apparent cure only occurred in small proportion of 36 non-operated cases. The statistics of 1,033 nephrectomies collected by Israel show that 75 per cent were permanently cured. This emphasizes the importance of making a diagnosis before the other kidney is involved and also shows the great value of the operative treatment.

Finally the method of operation procedures which he uses is detailed.

Alger: Common Ocular Changes in Nephritis. *Post-Graduate* 9, 2, 270, 23.

By Surg., Gynec. & Obst.
The author states that characteristic ocular symptoms are not invariably present in nephritis. While Bright's disease is often first discovered by the ophthalmologist, larger number of cases show no ocular signs whatever. Three classes of symptoms are recognized: first those due to toxæmia second, those due to vascular changes third, those resulting from general weakness.

The commonest and most characteristic ocular symptom of nephritis is the so-called albuminuric neuro-retinitis which may occur in patients with little or no albumin. In nephritis of pregnancy partial trophic and permanent damage to the macular region may result from comparatively slight involvement of kidneys, while total blindness results in 5 per cent of the cases. Premat- labor should be induced if retinitis develops before the seventh month. In chronic interstitial nephritis the fundus picture is characterized by the vascular changes associated with the general arteriosclerosis.

Prognosis as to vision depends upon the location of the lesions, as well as upon character and extent. Those due to toxæmia are most favorable. In other forms the appearance of retinitis is the most ominous both as regards vision and life. From 60 to 80 per cent in long series of cases died within one year and the percentage of total blindness was very large.

Chronic nephritis, with resulting high blood pressure is probably predisposing cause of glaucoma. The errors of vision due to muscular weakness are often relieved by rest and proper glasses.

Thos. C. Hallow

Underhill: Intermittent Pyuria Due to Infection of the Prostatic Utricle. *J. Am. M. Ass.* 1923, ix, 973.

By Surg. Gynec. & Obst.

Underhill reports two cases of infection of the prostatic utricle with intermittent attacks of pyuria and calls attention to the importance of differentiating such cases from conditions higher up in the urinary tract which present the same phenomena. Both cases presented history of gonorrhea, one six and the other eight years previous, and at irregular intervals for several years also had pus in the urine for several days. In one case these attacks were accompanied by frequency of micturition, and in the other by a sense of fullness in the perineum, and an aching in the testicles, but by no frequency of micturition. On examination both cases also had normal conditions in the bladder, ureters, prostate and vesicles. The urine drawn from the ureters and bladder was clear. The prostatic and seminal fluids were normal. The pus examined microscopically showed pus cells but no organisms. By the three glass test the urine as turbid, showing pus, in all three. Endoscopic examination of the posterior urethra showed the veru-montanum to be swollen, congested, congested, and easily bleeding. The lips of the utricle were glued together and when forced apart by probe allowed the escape of pus. The utricle was emptied of its pus and 1 per cent silver nitrate solution piped daily for few days, with excellent results in one case and the formation of adhesions of the utricular lips in the second. The application of 1000 mg formaldehyde completed the cure of the second case.

The author mentions Geraghty as having called attention to recurring attacks of posterior urethritis as one of the results of infection of the prostatic utricle. In the cases reported the interesting points are the intermittent attacks of pyuria, lasting few days, with symptomless intervals, and the similarity shown in these symptoms, to those occurring in tuberculous and other infections of the upper urinary tract.

H. J. Pomeroy

Caulk: Unilateral Renal Hematuria Cured by Pelvic Injections of Adrenalin. *J. Intern. M. J.* 1923, 22, 244.

By Surg. Gynec. & Obst.

The author states that, in contradistinction to the prevailing idea that bleeding may originate from nephritis which also has no clinical evidences of the disease, he has cured 2 cases of unilateral bleeding by pelvic injections of adrenalin to 2000. Both cases demonstrated clinical evidences of nephritis which evidently took no part in the production of the bleeding. Still in the two cases reported the catheterized specimens from the kidneys upon

analysis showed albumen and casts. By reason of the excellent results the author obtained in these two cases he makes a strong plea for conservatism in urging renal decapsulation as a method of relief and warning the profession against immediate radical measures. These cases until pelvic infections of adrenalin be tried first as a means of differentiation. In the two cases cited, he believes that the lesion responsible for the bleeding was undoubtedly in the renal pelvis, but whether it was a varicosity, an erosion or papillitis, he is not prepared to say.

He is thoroughly convinced that many of the cases are due to nephritis but also believes many of the cases are due to renal pelvic lesions, and these should first be proved or disproved by injection of adrenalin before any radical measures for the treatment of nephritis, such as decapsulation, are undertaken.

It would be of interest if the author would keep in close touch with these cases to find out if any subsequent bleeding takes place and possibly later on find out the lesion responsible for such a haematuria either by operative procedure or otherwise.

C. R. O'CONNOR

Fournier. The Future of the Nephrectomized
Am J Urol, 9, 3, 12.

By Surg. Gynec. & Obst.

The author raises the question.

If the single kidney of a nephrectomized person generally suffices to assure him of the urinary function during normal conditions of health, will it do the same in certain physiologic conditions as pregnancy or in pathologic states as in an infectious disease or even after a simple organic disturbance such as perineuritis or accidental trauma.

These points are considered under the following heads:

I. MORAL AND FUNCTIONAL MODIFICATIONS SUPERVENING IN THE KIDNEY REMAINING AFTER NEPHRECTOMY.

These modifications cannot be indifferent to the future pathology of the remaining kidney. First, the compensatory hypertrophy which is never wanting either in man or nephrectomized animals. In this compensatory hypertrophy there is no formation of new glomeruli and tubules but simply an increase in the size of those pre-existing. The process simulates the early stage of nephritis and consists of proliferation of the parenchymatous elements to a greater extent than the interstitial. The modifications in the secretions of urine consist first in a diminution of the quantity of the amount of fluid from one half to one third for the first three or four days, then rapidly increasing and exceeding the normal. There is present a small trace of albumen, and, the sediment leucocytes, casts and renal epithelium. These changes of the urine correspond to the anatomical lesions and show the presence of true parenchymatous and interstitial nephritis.

This nephritis is due to the action of toxic substances accumulating in the blood upon the suppression of one kidney before the other can get into condition where it can take them off. The limitations of the inflammatory process are doubtless due to the relatively feeble toxicity of the blood and the rapid restoration of the field of limitation of the incited kidney. The foregoing occur experimentally and are also true clinically when nephrectomy is practiced for renal trauma.

Are they equally applicable when this operation is undertaken for affection, acute or chronic, suppurative or non-suppurative diathetic or non-diathetic recurring later in the congestor or else attacking it at the same time as the first?

Observations prove that this is so. A toxic nephritis follows a different disease of the kidneys but it is no contraindication to operation on the contrary the nephritis clears up after the removal of the diseased kidney provided the process has not advanced too far and the organism is not itself too much intoxicated. Just as in the well kidney the diseased kidney becomes the seat of compensatory hypertrophy. In many subjects, hypertrophy of the remaining kidney has already developed before the removal of the diseased organ, thus offering the urinary secretion a substitute field already prepared for work. This hypertrophy varies in different conditions in nephroses where there is gradual and aseptic hypertrophy of the kidney hypertrophy is complete and is comparable to that which follows experimental nephrectomy. Aseptic lithiasis is accompanied by real, although slight hypertrophy of pyonephrosis, tuberculosis and cancer it is slight.

Are the modifications observed in the remaining kidney during the interval following nephrectomy permanent and does the kidney definitely retain this advantage so that it may assure the process of urinary secretion in all its integrity?

There are but few histological studies of the remaining kidney recorded but these all show the increase in volume relates to the glandular rather than the interstitial tissue showing permanent and true hypertrophy.

Chemical and histological examination of the urine as well as the various functional tests with methylene blue and other substances show in majority of cases complete retention of renal function. This is equally true when the nephrectomy has been performed for disease such as pyonephrosis, tuberculous lithiasis, as for conditions which do not affect the anatomical elements, as traumatism.

But this is not always the result and in a fairly large number of subjects one can find for many years persistent urinary troubles both quantitatively and qualitatively, these lesions being less the result of the toxic nephritis than of the lesions with which the kidney was itself affected at the time of intervention. These are and intensify these changes explain their persistence but except in those cases where the original disease tracks in turn the remaining kidney they tend to remain unchanged.

Clinical observations also show, despite these alterations in the urine indicating a kidney lesion that nephrectomized persons can live for years without any aggravation of these conditions and may even overcome various diseases—still his resistance is undoubtedly diminished.

Thus from the study of the kidney function nephrectomized patients are divided into two groups: (1) Those who entirely recover their physiologic function and (2) those who retain more or less definite disturbances of these functions. The latter are in the minority.

II. A STUDY OF THE SINGLE KIDNEY FROM THE POINT OF VIEW OF PURIFICATION OF THE BLOOD IN THE VARIOUS PATHOLOGICAL AND PHYSIOLOGICAL CONDITIONS.

Resistance of the single kidney to infection and infection. There are many clinical cases which show that it makes the remaining kidney badly diseased nephrectomized persons at all infections on the whole very ill.

Effects of nephrectomy on the general health and on the development of the individual. I suppose we know acute and chronic nephrectomy by removing the source of sepsis and permitting the remaining kidney to recuperate its functions restores general nutrition and causes actual resurrection in few weeks. The influence of nephrectomy on the development of the individual when performed in adolescence or infancy seems to be all as is attested by various reported cases.

Pregnancy complications following nephrectomy. Nephrectomy seems to have no effect on the development of pregnancy and many normal cases are reported, not only single but successive. The published case, however, gives no information as to the anatomical and functional state of the kidney but it is probable that its condition was normal. When there is present the slight nephritic lesions already referred to there is undoubtedly more danger particularly if some intercurrent infection add its force to those of pregnancy.

Abnormal and septic labors would undoubtedly offer considerable danger in women with one kidney, but this is theoretical as none such are recorded. Nursing is no more interfered with by nephrectomy than in pregnancy.

The anaesthesia. Trauma. With the exception of the sudden death of a nephrectomized patient due to accident there are no instances to determine the resistance of such an individual to accident. It is arguable that in cases of severe shock due to lacerated wounds or burns, the already grave prognosis could be aggravated.

There are a large number of observations which prove that even the most serious surgical operations can be successfully performed on patients possessing but one kidney. Such operations should only be undertaken after one is assured of the proper functioning of the kidney and due care is to be observed during the operation and of subsequent dressings

as regards the employment of any antiseptic whose absorption might cause renal irritation.

Anaesthesia. Individuals possessing but one kidney can be submitted to anaesthetic inhalation without danger, due regard being had for the functional ability of the kidney.

Method. The Technique and Results of Lateral (Paraperitoneal) Nephrectomy. *Am. J. Urol.* 9, 3, 15, 77. By Surg. Gynec. & Obst.

Lateral nephrectomy is considered to be better than the anterior transperitoneal operation because the peritoneal cavity is not opened because it is easier to push the entire peritoneal sac toward the median line than to keep a mass of intestines out of the operative field and because by the lateral route the operative field is closer to the surface of the body. Over the commonly employed lumbar route it has the advantage of better exposure of the kidney pedicle, so that the necessary manipulations can be carried out under the guidance of the eye. Its chief disadvantages lie in the danger of post-operative hernia on account of division of the eleventh intercostal nerve yet 18 cases were operated upon by this method eight were found to have perfect cicatrization while the remaining ten presented slight limpness on coughing.

Operative technique. The patient lies on his back, lightly turned toward the healthy side, a sand bag being placed beneath the affected side so as to throw the lower portion of the thorax forward. The incision starts at the point where the anterior axillary line crosses the costal margin and is carried down and forward to a point about one inch in front of the anterior superior spine of the ilium. The external oblique is split in the direction of its fibres, the internal muscles are cut across. If more room be required the medial portion of the external oblique may be cut transversely. The peritoneum is then stripped forward and long retractors inserted to expose the renal region. The fatty capsule of the kidney is then opened and the organ freed under guidance of the eye additional retractors being inserted to elevate the costal arch and lift up the peritoneum as far as the median line of the body. The method is particularly applicable to cases complicated by dense adhesions. Drainage is established through a secondary wound in the loin. The muscles are sutured in two layers with interrupted sutures of heavy catgut.

Healing is usually rapid, even in infected cases. S. W. MOONMAN.

Kelly. Ligation of the Renal Artery and Vein in a Patient for Nephrectomy. *Proc. Roy. Soc. Med.* 19, 3, 16, 79. By Surg. Gynec. & Obst.

The thoracic attention was called to ligation of the renal vessels as a substitute for nephrectomy by the report of a case of tuberculosis of the kidney operated upon by this method by an Indian surgeon. The method appealed to him as a useful one and he accordingly adopted it in a case of pyonephrosis due

renal calculus with a renal sinus in the loin. The kidney had previously been incised, an abscess opened which continued to discharge through the persistent lumbar fistula. As the patient was in poor condition, Kellock explored the wound, found the calculus the size of a hen egg which he removed, and two weeks later ligatured the renal vessels through the abdominal route.

In ten days the urine had become much clearer the patient had improved, and there was very little discharge from the sinus. After nine weeks this sinus was again explored and several friable masses of kidney tissue came away. The wound then healed, and the patient recovered his health. The author discusses the technique of ligature by the abdominal route, and points out that on the right side the vessels are more difficult to reach since the head of the pancreas and the duodenum overlie them.

In the discussion of the paper Swan said that he felt it would be a useful method in cases of renal sinus in the loin, but he did not believe it would check suppuration of tuberculous kidney. Makins reported a case in which ligatio was performed, and the effect was only temporary possibly due to the presence of a supplemental renal artery which preserved the circulation of the kidney.

Guiterras: Some Aspects of Renal Surgery. *Canad. Med. & Surg. J.* 9 3, xxviii, 9.
By Surg., Gynec. & Obst.

This article is the report of an illustrated lecture given by Guiterras. It consists chiefly of references to cases in his own experience, with a few general observations on the conditions thus illustrated.

The lecturer considers first developmental anomalies of the kidneys, such as unilateral asymmetrical and horseshoe kidney and variations in the position of the organ. He speaks also of cases of hydronephrosis, rupture of the kidney, nephrolithiasis, cystic and polycystic kidney and renal tumor.

Two cases of unusual interest which he mentions concern the rupture of pyonephrotic kidney containing calculi, and hydatid cysts of the kidney.
GROVER G. SWANN.

Lloyd: Is Decapsulation of the Kidneys for Chronic Bright's Disease Justifiable? *Post-Graduate*, 9 3, xxviii, 332. By Surg., Gynec. & Obst.

Based on his observation upon the record of 3 cases previously reported by Edebohls, and 9 cases reported by himself, total of 12, of which 4 cases were cured and have remained well, the author concludes that the operation is justifiable. In addition to the 4 cases cured, 33 others were improved. All of the cases referred to had resisted careful and scientific medical treatment. Few of them had received post-operative treatment of any kind, improvement being due solely to effects of renal decapsulation. The mortality of the operation was slightly above 1 per cent.

The author believes that the immediate good effects are due to the massage of the kidneys and the relief to congestion afforded by the direct abstraction of more or less blood from the organ during operation. In all cases that are steadily progressing in spite of rational medical treatment, operation is advised.
THOMAS C. HALLIDAY.

Bartholomew: Method of Classification, Diagnosis and Therapy of Kidney Disorders, Based on Functional Testing. *Med. Rec.*, 9 3, xxxiii, 699.
By Surg., Gynec. & Obst.

The author gives history of kidney disorders from the time of Bright (1836) up to the present. He cites the different theories including the modern view. This is as follows: The primary water and crystalloids are separated from the blood serum in the glomerulus by simple process of filtration which is dependent upon the blood pressure and chemical composition of the serum, in the tubule the primary urine is concentrated by water reabsorption and at that time is enriched by the addition of certain organic and inorganic constituents. He discusses the normal function of the kidney and divides it into three processes: simple filtration, osmosis and synthesis. He discusses the diagnosis of dropsical and non-dropsical uræmic nephritis as well as the method of producing experimental nephritis by the administration of such as cantharides, corrosive sublimate etc. He prepared a schematic outline for the classification, diagnosis and therapy of kidney disorders from his experience and knowledge of the kidney. The article is very exhaustive.
J. RAMONA.

Brannach: Recent Progress in Uteropyelography. *J. Mich. St. M. Soc.*, 9 3, xli, 189.
By Surg., Gynec. & Obst.

Uteropyelography has been employed in the Mayo Clinic in the treatment of more than 1,000 patients without fatality or permanent injury. The following technical precautions are to be employed: (1) Colloidal silver crystals are to be carefully ground in mortar and then filtered. (2) solution to be warmed and not boiled, (3) solution to be injected by gravity method. (4) large ureteral catheter should be used. Contra-indications for its use are: (a) in markedly hypertensive individuals (b) with ureteral obstruction which will not permit the pelvis of the kidney to drain after the colloidal injection, as with large hydronephrosis (c) in any condition which can be definitely diagnosed without uteropyelography. When the ureter appears kinked in the erect pyelogram or when the ureter assumes an anomalous course after leaving the pelvis there is no objective indication for operation unless a dilatation of the pelvis or ureter can be demonstrated above it. It is often difficult and occasionally impossible to distinguish between the outline of small hydronephrosis (10 to 30 cc.) and that of large normal pelvis. Small hydronephroses must be completely distended in order to be recog-



Fig. 1 (Frost and Boquet) Preparation of the superior end. The needle, having introduced the wall of the ureter from within out at a distance from the cut edge, is returned from without, in, close to the cut edge.



Fig. 2 (Frost and Boquet) Preparation of superior end. Tension upon the opposite ends of the sutures causes eversion of the mucous membrane.

nized. Care is required to fully distend the ureter in order to demonstrate dilatation. Gas and oxygen as injecting mediums instead of colloidal silver have not proved practical in the author's experience. Confusion of the shadow of the pelvis injected with air with that caused by gas in the adjoining bowel renders interpretation uncertain. Lack of detail in distended pelvic outline is disadvantage. Distention of ureter is frequently difficult to show unless fully distended. Colloidal silver will not outline ureter if allowed to run in from the bladder when the patient is in the Trendelenburg position unless the meatus be dilated.

Frost and Boquet Technique of Circular Ureterorrhaphy (*Technique de l'ureterorrhaphie circulaire*). *J. de chir.* 9, 3, 4, 7.

By Surg., Gynec. & Obst.

The indications for circular ureterorrhaphy at Frost and Boquet, are almost exclusively limited by cases of voluntary or involuntary section of the ureter in the course of operative procedures. In general, at the end of the operation, the closure is accomplished by one of the following methods. Direct suture suture upon conductor and suture by

invagination. After comprehensive review of the literature, with comments upon the technique of the proponents of these three methods, the authors, disclaiming originality for their ideas, have been operation on these fundamental points: invagination (after Foggi), eversion of the mucosa of the superior end (after Ricard) and the folding of the inferior end (after Pozzi).

First step. Preparation of the superior end of the ureter, eversion of the mucosa. After trimming the cut edge smooth, with the scissor, the mucosa is grasped at four equidistant points by fine-toothed artery forceps (Wocher-Tierrier) and carefully separated from the overlying tissues with the non-toothed dissecting forceps. When the eversion of the mucosa can be easily accomplished, one stitch is passed in each space between the forceps, including the wall and all. When the eversion presents some difficulty, its fixation is accomplished by a special maneuver. A curved needle, beveled at both ends, is passed through the coats of the ureter from about one centimeter from the cut edge. This same needle is returned through the wall from about 10, very near the free edge (Fig. 1). The procedure is repeated in the remaining three



Fig. 3. (Proust and Buquet.) Preparation of the inferior end. Longitudinal incision.



Fig. 4. (Proust and Buquet.) Read for invagination. Introduction and fixation of the posterior and lateral guide sutures.

spaces between the guide forceps. To evert the mucosa equal traction is made. All threads of the four hooks emerge nearer the cut edge, are pulled up to hold the kidney, the others down (Fig. 5).

Second step. Preparation of the inferior end. In order to prevent compression of the invaginating superior extremity the upper end of the inferior extremity is dilated by gently separating the blades of a fine artery forceps introduced into the lumen. Next the artery forceps as guides are placed close together on the cut edge and the ureter divided longitudinally between them for a distance of one centimeter (Fig. 3).

Third step. Invagination. This is accomplished by means of the four sutures in the superior end. Each end of each suture is threaded on a curved needle. That emerging externally (the one which engages the everted mucosa) is introduced into the lumen of the inferior end and pierces the wall from within out about two centimeters from the margin that emerges externally (the one which emerges from the lumen of the ureter) is introduced similarly to the first parallel to it, and emerges from the wall from within out a millimeter lower (Fig. 4). The order of introduction followed by the authors is to commence with the posterior pair then the internal,

external and finally the anterior. To complete the invagination, the eight ends are carefully paired gently drawn until slight resistance is met, each paired and the loose ends cut (Fig. 5).

Fourth step. The inversion of the inferior end. Near each border of the longitudinal cut at equal distance from its extremities, a single short stitch is taken with fine catgut. Drawing upon the loose ends of these stitches causes the center of the flap ends to bulge and the ends are easily turned in by means of the grooved director (Fig. 6). The inversion is completed for the entire circumference and is held in place in the following manner. The inner end of each guide suture is threaded on a fine curved needle with which a single stitch is taken in the wall of the superior end of the ureter, care being taken not to enter its lumen. Two similar sutures are taken posteriorly and tied. Before tying the inferior sutures, a stitch is taken in the free borders of the longitudinal incision in order to close this cut and at the same time to assure the position of the inverted wall (Fig. 7). It is equally important to note that the approximating sutures should not be of the same longitudinal axis as the sutures of invagination but should alternate regularly with them (Fig. 8).



Fig. 5 (Frost and Burget). The invagination completed. The ends of the guide wires are led in pairs.

The great difficulty of this technique is the claim that the invagination of the ureter is biased more by the disposition of the surface than by the ratio of the sutures and no matter how quickly the ureter is absorbed there still follows no separation of the two ends. Also from the standpoint of ulterior functional result the eversion of the mucosa is of enormous advantage for it produces a continuous mucous membrane and protection against reflux action.

The functional results of experimental ureterectomy as testified by Albane show that the rhythmic peristalsis of the ureter is much slowed but each peristalsis is more abundant. Albane explained this phenomenon by a slight stenosis which makes it necessary for the superior end to become distended and form a pouch before it could empty itself to the lower end. I have quoted by the author seven months after operation, the sutured ureter gave four peristalses per minute each of eight to ten drops of clear urine. In many respects it is that of the opposite side.

The conclusion drawn by the author is that from the point of view of physiologic result the eversion of the mucosa added to the classical procedure of invagination assures much better outflow of urine and more surely prevents stenosis. Collected



Fig. 6 (Frost and Burget). Showing the method of using in the inferior end. With the grooved director, the traction on the loops of caught covers the edges of the longitudinal cut so balloons out.

tactules also that suture by invagination gives one half as many urinary fistulae as the suture direct. Also invagination permits the use of caught as suture material whereas still necessary in the direct method, may be starting point of urinary calculus in practicing the direct invagination, especially.

The eversion of the mucosa is essential that the ureter be long enough to allow good overlapping of the two ends. The ureter can only be seen cut not resected. If the loss of substance is such that it causes noticeable stretching, it is better to resort to the suture direct and if this threatens to be followed by marked tension, do not retract of the two ends it could then be more prudent to resort to the suture upon conductor. Ellis Frost.

Bonn: Ureteral Catheter Diagnosis and Therapy

Indonesien M J 9 3, 271, 37

By Georg Gynec. & Obst.

The author discusses the technique of ureteral catheterization in detail with especial emphasis upon the X-ray procedure. He discusses determination of the capacity of the renal pelvis, vesical lesions, stricture and obstruction of the ureter, dilatation and fistula of the ureter, hydroureter, acute pye-

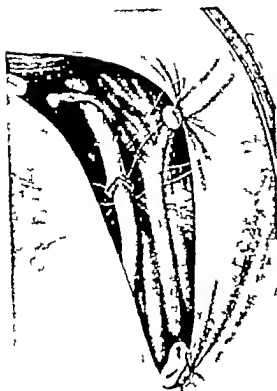


Fig. 7 (Prosser and Boquet.) Approximating sutures showing the position of the sutures.



Fig. 8 (Prosser and Boquet.) The completed operation. Note the alternating position of the knots in the rows of sutures.

blis cystitis hematogenous anal infection pyonephrosis and renal tuberculosis.

I conclude. Bonn calls attention to the frequency of errors in the diagnosis of renal tuberculosis. There are many cases of renal tuberculosis, he says, that are now being treated for retroversion of the uterus. Use of the tipped-up portio vaginalis produces certain amount of vesical irritability. The author assumes that the diagnosis is usually in error and uses three cases as proof. In these cases the final diagnosis of assumed delusion is made possible by development of bilateral renal tuberculosis.

The author recommends better diagnosis and an early nephrectomy. He also suggests dissection of the ureter and ligature close to the vesical meatus. When such procedure is contra-indicated the writer recommends a right rectum by the left rectum of pure phenol.

HARVEY A. MONROE

BLADDER, URETHRA, AND PENIS

Burger. The Pathology and Treatment of Callosus Ulcer of the Bladder. *Med. Rec.* 3, June 1910. By Surg., Gynec. & Obst. The author in his very terse article makes point out that the so-called cases of simple

ulcers of the bladder are not of the type that he terms callosus variety. He states among other things that a superficial stud and cursory perusal of the reported cases in the literature may give the impression that topical applications of silver nitrate can cure simple ulcers of the bladder.

A critical review of the history of such cases and the cystoscopic findings would lead to the conclusion that such cases belong to the superficial variety of ulceration and that no case of deep-seated callosus ulceration has been cured by topical application of medication alone. He further states that the cases which he diagnosed under this heading did not yield in any way to repeated fulguration.

After detailing two of his cases, he draws the following conclusions:

Clinical cystoscopic and pathological studies in the cases of vesical ulceration have conclusively shown that simple callosus ulcer of the bladder can and does exist.

The clinical symptoms of this condition are intense dysuria, urgency, frequency of micturition, the sanguineous and purulent discharge. The micturitions become progressively more marked and take a chronic course.

3. The prognosis of this disease and the pro-

gressive impairment of vesical capacity speak strongly for the view that chronic cystitis and contracted bladder are often the sequelae and outcome of solitary ulceration.

4. The region of the trigone seems to be the favorable site for the chronic indurated type of ulceration.

5. Although designated as simple, and often as solitary ulcer of the bladder this condition may be accompanied by superficial erosions of the mucous membrane elsewhere in the bladder which are undoubtedly secondary to the intense cystitis accompanying the ulcer.

6. The most effective and rapid method of curing the disease as well as the simplest procedure is the excision of the ulcerated area by means of the author's operating cystoscope and punch forceps.

7. Less radical measures of treatment such as cauterization with the actual cautery or fulguration and silver nitrate irrigation are of no avail in this type of ulcer.

8. Histological examination in two cases has shown that the pathology of this condition is rather characteristic there being a superficial deposit of urinary salts, layer of necrosis and ulceration and stratum of newly formed connective tissue with active evidences of inflammation. The margin of the ulcer shows intensely vascular inflamed mucous membrane and submucosa.

9. In every case of chronic cystitis, particularly in women, where dysuria, urgency and frequency of micturition are marked, careful search should be made for this form of ulcer for if it be present it is more than likely that chronic cystitis and an irritable and contracted bladder are secondary and may be cured by the method advocated.

ISA S KOLL

Newman. Chronic Cystitis and Retention of Urine, Treatment by Drainage and Its Renal Effect Upon Damaged Kidneys. *Practitioner* (London) 93, 24, 67.

By Surg. Gynec. & Obst.

In this article the author presents the result of his personal experience in drainage of the bladder in cases where back pressure from obstruction has damaged the kidneys. He reaches the following conclusions:

Obstruction to the free escape of urine involving increased tension in the kidneys, may lead to the development of symptoms—polyuria, albuminuria and toxæmia—resembling those of interstitial nephritis, which form serious complications of the bladder trouble and, if not relieved ultimately lead to toxæmia.

Drainage may be carried out in three ways: (1) By urethra, (2) intermittent catheterization and irrigation, (3) continuous drainage by indwelling catheter. (b) By perineal urethrotomy (c) By suprapubic cystostomy.

Of these methods the author prefers suprapubic cystostomy.

3. By free continuous drainage of the bladder these symptoms diminish and ultimately disappear and the patient is placed in more favorable condition so operative should further treatment be required.

4. Free continuous drainage is also followed by diminution in the size of the kidneys and contraction of the ureters, so that the orifices regain their normal valvular action.

5. In chronic cystitis, free drainage by suprapubic cystostomy is the surest method of giving relief to the symptoms or of curing the disease.

Garnett. Suprapubic Cystostomy. *K. L. M. J.* 9, 2, xvii, 649. By Surg. Gynec. & Obst.

The indication for cystostomy in cancer of the prostate and in all other malignant neoplasms of the bladder and urethra arise under very different circumstances—when the growth is still operable it is temporary palliative operation, and it is permanently palliative when the growth has become inoperable. The symptoms of malignant affections of the prostate are quite the same as for simple prostatic hypertrophy. In either case, the indications for suprapubic cystostomy are the serious complications, as acute retention, severe infection, intolerable pain or free hematuria and bad general condition. Suprapubic drainage will relieve the urgent symptoms and allow a later date the removal of the diseased gland. The three presents as cases of suprapubic cystostomy in the inoperable stage but or made comfortable from 6 months to 1 year. In operable cases, total prostatectomy should follow as soon as the conditions admit.

Frequently the progress of the malignant disease is lessened by the favorable general effect of the operation and in some cases the life of the patient is thereby considerably prolonged. Desnos reports a case that survived the operation for over four years. The author includes in his indications malignant disease of the rectum and other intra-pelvic carcinoma which may be involved either the prostate or bladder to the extent of giving rise to severe urinary disturbances, and especially recommends perineal suprapubic cystostomy in all cases of inoperable prostatic malignant disease since temporary cystostomy will rarely suffice.

HARRY D. ORR.

Garnett. A Case of Enstrophy of the Bladder Treated by the Operation of Helts Boyer. *Hovelacque* (U) cas d'entrophie vésicale traité par l'opération de Helt-Boyer ou Hovelacque. *Bull. et mémoires Soc. de chir. de Paris*, 93, 2, 2032, 20. By Journal de Chirurgie.

Garnett presents a boy 9 years old, whom he had operated for entrophy of the bladder by the method of Helts Boyer Hovelacque. Three operations had previously been done: eight, fifteen and sixteen years by the plastic methods then in use and each time it failed. Garnett followed the technique of Helts-Boyer Hovelacque exactly and considers it

perfect. He began the operation with the intention of using the method of Cusco which had attracted him and seemed the simplest. At the last step of the operation it is necessary to use a loop of the ileum, the long mesentery one that can be pulled down easily. In the case at hand he found that he could not lower the terminal loop of the ileum. He therefore turned to the method of Heitz Boyer Hovelacq.

In this method the most delicate point is the anastomosis of the left ureter to the pouch of the mesocolon. Intereference but nevertheless they must be preserved.

Wasson carried out the entire operation at one time. His patient was cured. It must be noted that the upper urinary passages are not infected. The patient can hold his urine during the day. During the night he had involuntary passage only twice during the month. J. DIXON

Cumtson. Excision and Suture of the Treatment of Dense Close Urethral Strictures. *Ann Surg Phila* 1911, 530

B. Surg. Gyroc & Obst.

Cumtson describes but he considers the operation of election in cases of dense close urethral strictures. Such strictures he says occur most commonly from traumatic rupture of the bulbous urethra. Excision of the scar without doubt gives the best results. There are however several methods of treating the severed urethral ends.

Any method requiring permanent catheter in the urethra is bad. Urine should be kept out of the urethra. It stagnates about the line of suture causing suppuration and swelling. Scar orchiitis is caused by the catheter. Urethrostomy, the other hand, requires two operations and perineal urination for months.

In the operation which Cumtson advocates, the urethra is opened on the point of sound just in front of the stricture. The cicatrix is removed as completely as possible. As much as 6 cm. of urethra may be resected. The posterior segment is freed for 1 cm. the anterior for 4. Sutures are then placed in the periurethral tissues so as to bring the ends together without tension. The ends themselves are united by fine catgut stitches while a large sound is in the urethra. The urethra is opened upon the sound at least 1 cm. behind the suture line and catheter fastened in the bladder through this incision. The perineal wound is closed for two thirds of its extent.

In case retrograde catheterization has been necessary or the stricture is so deep that the button-hole could come in the membranous urethra, supra-pubic drainage is advised.

The catheter is removed on the tenth day and sounds passed on the 14th. The bladder should be washed daily but the anterior urethra should be left alone. In the presence of severe cystitis the catheter may be left in much longer than ten days. GEORGE G. SWINN

Pedersen. Urethral and Periurethral Lithiasis. *N Y M J* 1913, 107, 48

By Surg., Gyroc. & Obst.

The author carefully discusses the three bases of lithiasis in all urogenital organs as disturbances of urinary metabolism causing precipitation of normally dissolved salts and as disturbances in the hydrodynamics and physics of urination favoring retention and decomposition, usually lith (rarely without) infection—both these constituting the primary pathogenesis of lithiasis. Foreign bodies the result of disease surgery and perversion to the third basis. These stones are migratory or formative—strictly native urethral stones. Calculi may be coagulated in pocket and diverticula. According to English Impaction occurs in the membranous urethra 4 per cent in the penile urethra 58 per cent (navicular fossa 1 per cent pendulous portion 4.5 per cent acrotal portion 13.7 per cent bulbous portion 8.6 per cent). From their origin stones may be endourethral and periurethral. Lithiasis affects children and adults giving in the former objective symptoms only and the latter usually previous history followed by a crisis of shock, anuria, retention of urine distended and tender bladder, rupture of the urethra and extravasation especially in children.

On physical examination stones may frequently be located with the urethroscope and sounds within the urethra. Lith is 4 per cent externally or through the rectum. Numerous case reports of lithiasis in children with and without fatal issue of operation are cited. Numerous case reports of urethral calculi are cited having native migratory and foreign body origin. A preference is shown for the classification of these stones into those of the anterior and posterior urethra from the standpoint of treatment rather than from the standpoint assumed by the German authorities, namely of the division of the stones into the strictly endourethral and exourethral sources. The author case of prostatic calculi is described under the heading of periurethral lithiasis.

The relation of radiography to urethral and periurethral lithiasis is briefly discussed. Treatment is concerned with preventive and curative measures. The former embraces the management of metabolic errors both systemic and urinary. Curative treatment includes emergency and election cases. Emergency work in this field is usually met with in childhood and old age, while the mildest condition is mostly of the election type. The presence or absence of complications makes up the chief point of the lecture cases. Uncomplicated simple urethral lithiasis has its own and obvious indications. On the other hand the complicated which usually means infected, cancer and the element of free drainage as well as the removal of the stone or stones. This is a valuable review of the whole subject through the history of the past up to the present in the light of modern urological knowledge and diagnostic equipment.

GENITAL ORGANS

Culler Epididymotomy A Plea for a Rational Treatment of Epididymitis. *Am J Urol* 19 3 4 93 B Surg. Gynec. & Obst.

I this short article the author makes a plea for the operative treatment of epididymitis, claiming that it is the only rational treatment. He states that gonorrheal infection of the epididymis results in abscess or cyst formation and therefore drainage is necessary.

Early experience with Hargner's operation convinced him of the value of epididymotomy but he considers this operation too formidable. He describes his simple technique which he has used series sixteen cases. The steps in his operation are as follows:

An incision three fourths of an inch in length is made over the most prominent part of the infiltrated mass down to the dense fibrous covering of the epididymis. Incision of the tunica vaginalis is made from the nearest round ligament with needle or tenotomy. An incision in the dense fibrous covering of the major or minor is made in the long axis of the tumor. The point of a hemostat is then thrust into the mass with the idea of entering the pus pocket. The instrument is opened and then withdrawn. A piece of No. 3 tubing one inch in length is inserted to the bottom of the wound and fixed with a suture. Copious dressings and Jumbo compressors complete the procedure. Pus will be found in all advanced cases and the fluid escaping in sequestered areas will be found to contain gonorrhea.

In this series of sixteen cases he noted the following results: I Sudden and permanent relief of the pain. II Disinfection forty-eight hours. III Rapid reduction size of inflammatory mass. IV Early healing of operation wound without suppuration. V Early convalescence without relapse. H A. Fox

Armstrong Prostatectomy—Suspension of the Bladder. *Canad M Ass J* 9 3 14 B Surg. Gynec. & Obst.

The author divides the suprapubic operation for the removal of the prostate. He also advises the suspension of the bladder to the anterior wall and the obliteration of the prevesical space at the time of the operation. These two results obtained in the following manner: A catgut suture is passed through the anterior sheath of the rectum and through the edge of the opening into the bladder from the outside, in and then out again through the bladder wall and the anterior rectum sheath, the point of exit from the bladder being either one inch above or below the point of entrance. This is repeated on the other side. When these two sutures are tied the bladder is firmly anchored to the buccal wall and the prevesical space is practically closed.

The author maintains that this operative technique tends to obliterate the post-prostatic pouch, and patients are relieved of their residual urine at once. V. D. ELLIS, M.D.

Rockey Prostatectomy by Compound Method. *Surg. Gynec. & Obst.* 9 3 14 434

By Surg. Gynec. & Obst.

The method is termed compound because it utilizes features of technique derived by various operators. These have been blended to form just the author at this time considers the best procedure in the facility of operation with minimum danger, speedy recovery and interference of final results.

The operation is suprapubic enucleation, utilizing the technique developed by Belfield, McGill, Fuller, Guiteras, Dwyer, Squier and the author. His additions are short incision, alveolar suspension of the bladder by two sutures, and the total abandonment of irrigation, either at the time of operation or as routine during the after-treatment. Inevitable retractors, sponging, and packing are not used.

The detail of the operation is as follows: Spinal anesthesia is produced by novocaine or general anesthesia by ether. The bladder is filled with warm water. When catheterization is difficult and the bladder is already distended with urine the operation may proceed without or bladder irrigation.

Whitard Pre- and Post-Operative Treatment of Prostatectomy. *Lancet Clin* 9 3 14 434

By Surg. Gynec. & Obst.

The author of this paper in particular stresses upon the preparatory treatment as well as the post-operative care of the cases subjected to prostatectomy. Not only does he consider better results obtainable by way of cure but better opportunity for the study of cases where the patients are subjected to preparatory treatment. It has been the author's custom for many years to secure drainage by catheter anchorage during greater or less length of time before operation, and yet the anchorage of the catheter could not be borne. I have recurrent catheterization as systematically followed as possible. Relief of bladder irritability, improvement of the condition of the urine, and especially in diminution of amount of pus, epithelial debris, and improvement in the specific gravity, reaction, odor and the presence of urea, have been usually observed where this plan has been followed. More recent he has given more time to the functional elimination test and has observed that careful preparation has influenced good results along this line. Improvement in elimination has also followed systematic use of normal saline solution by proctoclysis. He calls attention to the fact that the use of anastomosis in long cases and covering long period of time should be given with care because not infrequently there are no results obtained from anastomosis at the same time but results may intervene, such as irritation of the kidneys. The average period of preparatory treatment required in the author's cases has been from one to three weeks.

During anesthesia normal saline solution is given by hypodermoclysis in practically all of his cases. He notes among the operators by remarking that

the liability to post-operative hemorrhage is much influenced by the carefulness with which enucleation is done. It lays stress upon the use of continuous irrigation.

In the perineal operation the author utilized metal inflow and outflow tube devised by his assistant, Hanner.

The handling of the patient is greatly facilitated by the separate and complete wrapping of each leg in a blanket which also facilitates the handling of the interver drainage apparatus may be employed.

The question of getting the patient early in the thor believes, to be fairly regarded as still debatable, getting the patient in the semi-upright position the first or second day following operation by a properly adjusted body support has seemed both beneficial and desirable.

He concludes by remarking that occasional occurrence of fistula is not necessarily a argument against any form of enucleation. It has had no permanent incontinence following in any of his cases operated by the median perineal incision, although it has persisted for greater or less length of time in some of them. Systematic and persistent use of dilatation of the prostatic urethra and vesical neck with the Koffman dilator has usually given prompt relief.

LEVIN S. KOFF.

Koltzschner. The After treatment of Suprapubic Prostatectomy. *Surg. Gynec. & Obst.* 9, 3, xvi. 33. By Surg. Gynec. & Obst.

The author discusses the after care in two divisions — the attention to the field of operation, and the prophylaxis of the general condition of the patient.

The most important factor in the local care is the maintenance of proper drainage of the bladder. This is accomplished by connecting the bladder to be through glass coupler with a long rubber tube, the distal end of which dips into a graduated vessel containing some antiseptic fluid, which is placed on

to level than the body of the patient. Continuous sphygmomanometer is started and maintained by injecting fluid through the long tube into the bladder and then submerging the free end of this tube, while it is still filled, in the fluid contained in the receiving vessel. Any interruption of sphygmomanometer is marked in the glass coupler by the appearance of air bubbles in which event the drainage is re-established by again injecting fluid. Once in 24 hours the bladder is disinfected with 50 per cent argyrol solution, and the silver nitrate dressing is renewed at the same time. After three days the bladder tube is removed and the bladder is flushed out by means of soft catheter and hand-syringe with 5000 silver solution. The urine then drains out of the abdominal fistula into the gauze and oiled pad dressing underneath which the abdominal skin is protected from the macerating influence of the urine by a thick coating of vaseline. This dressing is changed every time the moisture penetrates the uppermost layers of the padding. All special devices for catching the escaping urine

are superfluous. In case the patient should fail to start natural urination on the seventh day few large steel sounds are passed. The granulations of the abdominal fistula are occasionally stimulated by cauterization with the silver nitrate stick. The application of scarlet red has to be devised against an account of the danger of anilin poisoning and the possibility of epithelialization of the sinus leading to the bladder. In case of a pronounced retardation of the closure of the abdominal fistula it is thoroughly cauterized with a galvanocautery. A scraping of the sinus may lead to a very annoying hemorrhage. Intense infection of the suture line calls for early opening of all the layers so as to prevent sloughing of the fasciae. The cleaning up and healing of the infected area is greatly enhanced by prolo and warm tubbing before each dressing.

Severe post-operative hemorrhage is checked by the introduction of Barnes bag into the rectum, where it is fully distended, and by exerting count pressure through placing a heavy sandbag on the abdomen while the hips and knees of the patient are flexed. This procedure is preferable to opening of the bladder and packing, which manipulations are apt to produce shock, infection, and repetition of the hemorrhage upon the removal of the tampon. In order to enhance the coagulability of the blood, 10 cc of serum are injected hypodermatically. In case phosphatic crumbles should appear in the urine the bladder is copiously flushed with 5000 salicylic acid solution until these concretions have disappeared. In rare cases granulations will persist at the former site of the prostate even after the abdominal fistula has closed. In such an event, after this fact has been ascertained by the cystoscope these granulations are scraped off and their site is cauterized by the aid of an operative cystoscope.

The general treatment the following points are to be observed. After the sphygmomanometer has been established continuous rectoclysis, by the drop method, is begun. 3 per cent glucose solution being used. This solution is perfectly innocuous to the kidneys and is of great nutritive value, with a selective action on the heart. This is continued until the patient is able to take sufficient fluid by mouth. On the second day after the operation the patient is made to sit up in bed, and on the third day he is placed in an easy chair. Insufficient elimination through the kidneys is stimulated by the administration of diuretics. The heart action is always carefully watched, and if necessary regulated by digitalis. Uremic symptoms are also watched for and, if they appear are treated by sweating, hot packs over the renal regions, diuretics and, in case of very high tension, with venesection.

Freyer. A Series of 234 Cases of Total Enucleation of the Prostate Performed During the Twenty Years 1911-22. *Lancet* Lond., 9, 3, xlviii. 618. By Surg. Gynec. & Obst.

This article is a short review of the work of Freyer during 9 years in removal of the prostate by the

suprapubic route. He has performed 36 operations during those two years with a mortality of 4.66 per cent. The patients varied in age from 40 to 90 years, with an average of 69.5 years. There were 65 octogenarians, eleven 70 years of age and the remainder younger. With one as young as 40 in whom stricture complicated the condition, Freyer performing an internal urethrotomy before removing the prostate.

Freyer brings out the point of suprapubic drainage and secondary removal of the prostate. He relates a case (N. 505) which presented with a well-distended bladder and in which he drained the bladder suprapubically and afterwards removed the prostate. This case suffered from uræmic poisoning and the urine showed a specific gravity of only .005 and contained traces of albumin. The bladder contained 3 ounces. Freyer says: "This case illustrates one of the few conditions under which it is advisable to divide the operation into 2 stages."

Case N. 903 is given to illustrate the difficulties presented in an extreme fat patient. In this case the abdominal fat was 6 inches thick before the bladder was reached. Freyer does not suggest a method to diminish the difficulties of approach of the abdominal wall.

He goes on to state the prostate disease as complicated by stone. Among these 90 cases there were 6 deaths or 6.4 per cent mortality while among the remaining 846 uncomplicated, 116 stones there were 4 deaths, or 4.84 per cent, so that the mortality in the former was nearly double that in the latter.

The article is very plain and suggests that the last word has been said in prostatic surgery by this method. Freyer does not indicate what his pre-operative or post-operative treatment of these cases has been, nor does he suggest anything regarding the number of cases of malignancy in this series nor his indications for operating or not operating. A. L. Brown.

Cabot. The Operative Treatment of Prostatic Hypertrophy. *Lancet* Clin. 9, 4, 1912, 700.

By Surg. Gyroc & Obs.

(1) But first states the point in the doing of prostatectomy the object being to remove the obstruction in a manner which is as little risk as possible. (2) As possible, second, as little damage to other structures and functions as may be. Then, taking up consideration of the most important anatomical points bearing upon the prostate and its environment he considers the division of the various lobes of the gland, as follows: (1) The posterior lobe that portion of the prostate which lies behind the ejaculatory ducts and comes in contact with the urethra, only that portion which lies in front of the openings of the ejaculatory ducts. (2) The middle lobe that portion lying in front of the ejaculatory ducts and behind the veru montanum. (3) The lateral lobes these form the side walls of the urethra and generally fuse on their anterior aspect thus forming the

roof. He then quotes the work of Tandler and Zuckerkandl as having demonstrated in a satisfactory manner that the middle lobe as they define it is the chief and practically the only offender in hypertrophy.

Further the author differentiates what is so little understood — the radical distinction between the anatomical capsule of the prostate and the surgical capsule. The latter is not in fact a capsule at all, but is the prostate itself.

The relation of the hypertrophied prostate to the internal vesical sphincter. It depends upon the position and direction in which the enlargement takes place.

Summing up the most important points in regard to the anatomy he states: (1) Only certain portions of the prostate to live in the process known as hypertrophy. (2) The prostate itself is compressed by the tumor and lies chiefly on the inferior and lateral aspects of the mass. (3) The vesical and urethral aspects of the prostate in hypertrophy are covered only by the mucous membrane. (4) The ejaculatory ducts lie wholly behind the tumor, but rarely if ever extends further forward than the posterior border of the veru montanum.

Special principles involved in the treatment of hypertrophy. The author bases his subsequent estimate upon what he believes to be the average result of the hands of first class surgeons, and not upon results obtained by few highly trained specialists. He then cites the 3 forms of perineal prostatectomy, namely the intraurethral enucleation and the transperineal method — the operation of Young and the suprapubic method of removal.

Quoting the occurrence of fistula he states: "The most serious of this operation is such that in many hands fistula will occur the commonest urinary or more occasionally the rectal. In the vast majority of cases they close in a few weeks or months, but occasionally persist for years, and must be regarded as an annoying complication not infrequently consequent upon these operations. This has bearing upon the perineal route. In the hands of good operators he further states the mortality is low. Referring to fistula following enucleation by the suprapubic route he states that the only form which can occur is that communicating directly with the bladder and thus will happen only in case of failure to remove the obstruction. In the presence of septic process without hypertrophy failure to remove the obstruction is by no means rare. Therefore, the occurrence of fistula is a direct indication of failure to remove the obstruction thus of course being referable only to the persistent fistula."

As to the mortality he places it as high as 5 per cent, notwithstanding the remarkable statistics of Freyer. The cause of this high rate he cites as being probably more or less due to the difficulty with which hemorrhage can be controlled, the production of shock and greater liability to infection, due probably to less efficient drainage. He further states that he believes more efficient control of

bleeding can be accomplished by thorough exposure of the field of operation, as advocated by Kollischer. Briefly summarized, the relative merits of supra-pubic and perineal operations in their present state of development seem to the author to be: The suprapubic route is the anatomically correct approach. It attacks the hypertrophied portion at a point where it can be reached with less destruction of tissue and with the greatest certainty of complete removal of the obstructing portion. It does less damage to other structures, interferes less with other functions, and is followed by fewer complications. It is more certain to result in cure. The perineal operation shows at the present time a definitely lower mortality. It is a more difficult surgical procedure, no matter what technique be selected. It is more likely to damage other structures and functions, and is less certain to result in cure. Cabot is prepared to present the views of Carlier that the perineal operation survives only on account of certain contraindications of the suprapubic method. — J. S. KOLLISCHER.

MISCELLANEOUS

Federstein Th. Colon Bacillus in Genito-Urinary Diseases. *Trans Am Assoc Genito-Urinary Surg.* 9, 3, May. By Surg. Gynec. & Obst.

By an extensive review of the literature the author shows that the subject has been receiving special attention during the past seven years. It could appear that the discredited knowledge of tuberculosis of the urinary tract had renewed the comprehension of primary colon bacillus infection of the same, and that this infection was proving to be of serious import. It is certain that the infection is usually hematogenous and descending, but there is evidence showing that ascending infection starting externally at the urethra, does take place, especially in women. The urethra and bladder nevertheless may escape in olvement the infection spending itself in the kidney usually the right. Direct lymphatic connection between the hepatic flexure and the right kidney has been anatomically demonstrated. It is probable that ascular lymph tract exists between the rectum and bladder. The disease is oft overlooked especially in children because the general symptoms which are those of a infectious disease often mask the slight local symptoms. Neglected the local symptoms become severe and attract attention but by then the damage to the kidney may have grown to serious proportions.

General treatment includes diuretics, urinary antiseptics, careful attention to diet and intestinal conditions.

Vaccine therapy has not been of avail partly because there are many varieties of colon bacillus and isolation of the causative one is difficult.

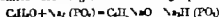
Radical surgical intervention may become imperative and does when pyelonephritis or pyonephrosis exists.

The author concludes with a brief analysis of etiological factors, symptoms, and lesions presented

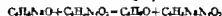
by sixteen cases in his practice tending to confirm the details of his paper.

Porter Uri Acid Calculi. *A. F. M. J.* 9, 3, April, 1899. By Surg., Gynec. & Obst.

The author states that uric acid is formed normally in the secretory cells lining the uriniferous tubules. He also states that phenol when taken by mouth is changed in the stomach into sodium and potassium carbonates according to the following equation:



The carbolat is absorbed into the blood stream and is excreted by the Malpighian tufts of the kidney. It passes down the lumen of the uriniferous tubules until it reaches the location at which the uric acid is constantly being formed. When the carbonates come in contact with free uric acid, the two react upon each other and form a somewhat soluble urate of soda, with liberation of carbolic acid as shown in the following equation:



This is explained the favorable effect of phenol in preventing the formation of uric acid urinary stones. — V. D. LEBMANN.

Walker Recent Work in Genito-Urinary Surgery. *Practitioner* Lond. 9, 3, April, 1899. By Surg., Gynec. & Obst.

In this article is presented a review of the literature on recent work in genito-urinary surgery. The author quotes varying opinions of authorities in America and Europe without attempting to decide between them, although in certain instances he gives the results of his personal experience.

Among the means of estimating renal function are discussed the experimental polyuria test of Alfben, the comparative study of the urea in the blood and that in the urine, and the indigocarmine and phloridizin test. In cases where catheterization of the ureters is impossible owing to the condition of the bladder, Leguen recommends temporary ligature of one ureter or suprapubic cystostomy and direct catheterization of the ureters. The author recommends in such difficult cases which are generally those of tuberculosis that course of new tuberculin of some months duration be given which may so modify the vesical spasm that catheterization of the ureter becomes possible. Failing this, exploratory nephrotomy of the supposed healthy kidney gives most information, preparatory to a nephrectomy if the other kidney should be diseased be unilateral. Paschke reports sixteen cases from Zöckler's clinic of bilateral exposure of the kidney in tuberculosis in which advanced changes in the bladder rendered other methods of diagnosis impossible. This method of exploration is recommended, especially in very young children, whom other means of examination are very difficult.

Very grave views are expressed of the results of decapsulation of the kidney. Leebmann declares

It is indicated in the so-called renal neuralgia in angio-neurotic hemorrhages and especially in emilia occurring in cut nephritis chronic nephritis, however, is not permanently influenced by the operation. Poten states that no cases of decapsulation in eclampsia are now on record. It is a sudden and remarkable improvement and recovery in certain number of cases. Sippel, in forty-six operated eclampsia cases, found thirty recovered from the disease; he otherwise would certainly have died. Poten's statistics however show that the mortality of eclampsia without operation was 13 per cent, while that of decapsulated cases was 40.7 per cent. It regards the method as strong in theory and useless in practice. Tyson states that in chronic nephritis the cases most favorable for decapsulation are those of the chronic parenchymatous type and those associated with stubborn anasarca.

From experiments performed on rabbits, Moore and Corbett have drawn the following conclusions in regard to the damage done to the kidney by operation. The incision does less damage than the sutures. Such are sutured renal control hemorrhage. Suture passed through the renal capsule stops the insufficient control bleeding. All these sutures through the kidney substance cause most extensive destruction. Suture passing through the pyramids and knotted on the outside of the kidney cause least damage and should be preferred.

In study on the subject of nephrectomy, Gerner states that mortality following primary nephrectomy is less than that following secondary nephrectomy, although in many cases the condition of the patient is too precarious for anything but nephrectomy to be the first operation.

Jacobson and Klier declare that post-operative pyelitis is more common than is usually supposed and is often found in cases in which no catheter has been used. Retention of urine, trauma, and coagulation are the most common predisposing causes and the colon bacillus is the usual infecting agent. Good results have been obtained by injecting into the urethra 5 to 10 c.c. of a 1 per cent solution of boric acid with urethral syringe.

Parker Sims advocates the transperitoneal route in operations on the bladder and prostate. He bases his view on theoretical reasoning and on the unfortunate results he has seen in the work of others. He declares transperitoneal cystotomy is an ideal operation, and should always be used as far as infection is concerned.

At the Second Congress of the Association Internationale d'Urologie (London, 1909) the following

reports that there is a consensus of opinion that resections of the bladder for new growth should be extensive. Ten Hek advised total removal of the bladder in recurrence, and in non-operated cases of multiple papillomata which are large and do not affect the ureteric orifices. If infiltration of the bladder wall by a malignant growth is palpable from the rectum it is inoperable. Roving hopes that the mortality of total extirpation of the bladder may in the future be considerably smaller than that of partial resection. He admits, however, that the danger of ascending pyelonephritis in the transplanted ureters, is a difficult problem to solve.

In regard to the causation of simple enlargement of the prostate, Wilson and McGrath do not regard any of the hypotheses at present held as acceptable, nor can they advance any satisfactory theory of their own. Pederson would exclude from operation and place on catheter life, cases of enlarged prostate in which there is chronic distention of the bladder on the ground that the paralyzed muscle has lost all power of recovery, and that the removal of the prostate gland would not benefit the symptoms. This theory does not agree with the striking result of Freyer's work here in many cases, even after

of complete catheterization of the bladder regains its tone when the obstruction is removed. Snyder states that three factors should be considered when choosing the particular operation to be employed for the removal of prostatic obstruction: first, the removal of the obstruction, second, as broad as certain, that the patient will be able to control the bladder and not suffer from post-operative urinary incontinence, third, preservation of the ejaculatory ducts and sexual capacity. The suprapubic route affords the closest access to the obstructing lobe; it does not damage the internal sphincter of the bladder as the perineal operation very frequently does, and the sexual function is more likely to be preserved.

Various statistics on the mortality following the various operations of prostatectomy are reviewed. Young had mortality of 1 per cent in 45 cases of suprapubic prostatectomy and 3.77 per cent in 490 cases of perineal prostatectomy. Freyer had mortality of 5.6 per cent in 1,000 cases of suprapubic prostatectomy. Where prostatic disease is complicated by stones in the bladder, his mortality was 8.84 per cent. Walker had mortality of 5 per cent in 100 cases of suprapubic prostatectomy.

Bremersman uses nitrous oxide gas and oxygen as an anesthetic for prostatectomy and considers it rapid and safe, but contraindicated in myocarditis.

H. L. S. 1909.

SURGERY OF THE EYE AND EAR

EYE

M. Kensie Cystic Distention of the Lachrymal Sac. Operation on Nasal Duct in the Nose (West's Operation) *Proc Roy Soc. Med.* 93. By Surg. Gynec. & Obst.

The patient, woman 3 years old, had been suffering from ethmoiditis for some years. Four months ago after the removal of polypi from the left side of the nose, she noticed swelling at the inner canthus of the left eye corresponding in situation with the lachrymal sac. It was tense and fluctuating and could be emptied into the nose by steadily pressing posteriorly.

West's operation as performed. Lachrymal probes which formerly met with obstruction in their route towards the inferior meatus, now passed freely into the middle meatus. So far there has been no return of the swelling. **Edward L. Correll**

Wright The Extirpation of the Lachrymal Sac. *Verhanded Med.* 93. By Surg. Gynec. & Obst.

The indications for extirpation of the sac are summed up by Wright as follows:

All cases of blepharitis with history of repeated probing.

A stenosis of the duct which does not yield easily and quickly to a probe.

If the given description of the operation as described by Meier. **C. G. D. Albro**

Kenyon Report of Case of Congenital Ptosis of Both Eyes Relieved by the Alastair Operation. *Trans. Am. Ophth. Soc.* 93, May. By Surg. Gynec. & Obst.

The best results obtained in this case is the author's policy in reporting it. Having met with failure to correct the deformity by means of the de Grandmoulin operation and the results being far from satisfactory in cases in which the Panas operation was employed the Alastair was used in this case. Briefly the technique is as follows:

After the usual aseptic precautions, the tendon of the superior rectus is exposed and the incision in the conjunctiva carried upward, an assistant pulling the lid as far upward as possible with the finger; the lid is then inverted and the incision carried through the sub-tarsal and on to the conjunction of the lid with the upper border of the tarsal cartilage. A tendon hook is now passed under the tendon of the muscle and a strong silk suture threaded on two short curved needles having been prepared, one of the needles is passed through the tendon and out again so as to include its middle 1/4. The suture

is now firmly tied round this middle 1/4 and that part of the tendon cut from its attachment to the globe and the incision extended upward until a narrow ribbon of muscle about 1 mm. long is isolated.

Then with dull pointed scissors a channel is dissected from the margin of the tarsus where the conjunctival incision ended and between the tarsus and the skin to the ciliary margin. One of the needles is then passed through the channel and made to emerge through the skin just above the cilia near the center of the lid, and the second needle is passed likewise, piercing the skin 3 mm. from the first. Gentle traction is next made on the sutures and the muscle slip is pulled into this channel in the lid until finally its end is drawn quite down to the ciliary margin when the sutures are tied over a small piece of folded gauze. The incision in the conjunctiva is sutured with great care with fine silk, that of the globe over the remaining superior rectus muscle and that of the lid over the muscle slip. The lid is then

Especially care should be taken to carefully suture the conjunctiva at the fornix, as disregard of this precaution has led to prolapse of the fornix.

The immediate effect should be considerably over correction and precautions should be taken to avoid exposure ulcer.

The patient, age six years had congenital ptosis of both eyes. The operations were done under ether anesthesia. Photographs were taken three years apart which show that the effect is permanent. There is very slight limitation of motion observed in either eye.

Tyson A Case of Congenital Apron of the Palpebral Conjunctiva. *Trans. Am. Ophth. Soc.* 93, May. By Surg. Gynec. & Obst.

The patient was a woman, age 40 years, native of Hungary. Upon eversion of the upper lid of her left eye, the tarsal portion of the conjunctiva presented an appearance as if a fold of conjunctiva extending nearly the entire length of the lid 8 mm. long and 5 mm. wide near the fornix, had been pinched with a pair of forceps, had been lifted up and then pressed back against the center of the tarsus and adhered to it along the upper edge of the fold, which was slightly irregular in contour. Near the temporal margin of the palpebral conjunctiva, 3 mm. from the external canthus, was a horizontal slitlike opening 4 mm. long which admitted the largest Bowman probe, which could be passed between the layers of the conjunctival fold, a distance of 5 mm. almost to the inner angle of the eye. About midway fibrous band could be detected which caused slight narrowing of that point.

The color of the fold or plica appeared trifle gray compared with the normal conjunctiva, but as transparent enough for the probe to be seen through it and observed the entire length. No other malformation of the lid was present, nor was there any evidence or history of trauma, trachoma or conjunctival disease. As to the etiology of the malformation, the author agrees with Schapirager who stated that admitting that during the embryonal life the amnion adhered to the layers from which the lids would be formed and that by pulling, a fold of the future conjunctiva originated. Later the mass separated from these tissues, and the fold remained permanently. A striking coincidence is the fact that nine out of the eleven cases reported in literature came from Eastern Europe.

Clark. Radical Treatment of Tumor of the Orbit. *New St. M. J.* 9, 4, 1917.

By Surg. Gynec. & Obst.

Clark reports the treatment of a tumor of the orbit in a child 1 year old with exophthalmos of the left eye. Duration three or four months found normal, slight limitation of movement. A thrill palpation and firm pressure on eye in the direction of the nose produced no apparent yielding. A firm pressure bandage used for some weeks with no improvement.

C. niotomy as performed. Large conjunctival incision made and external rectus as detached. The tumor mass could be seen to be made up of fairly large vessels and situated in the deeper part of the muscle cone. A bit of milligram of radium was inserted as deeply as possible without causing and left for 1 hour. Considerable reaction took place for six or seven days. At the end of week rather decided improvement in the exophthalmos as present. The operation repeated 10 days later. Seven months after the last operation most marked improvement had taken place. The affected eye as slight more prominent than the fellow. The movement of the eye were normal. C. G. DALLING.

De Schweinitz and Shumway. Epibulbar Carcinoma. Histological Examination of the Specimen. *J. Am. Ophth. Soc.* 9, 3, 1917.

By Surg. Gynec. & Obst.

This growth began in the left eye of a man aged 34, fourteen years prior to the excision of the eye. Three months after excision there was recurrence in the orbit the contents of which were therefore evacuated. Microscopic examination demonstrated that the growth was primary carcinoma of the conjunctiva beginning at the limbus, that it was possibly have started as papilloma and as the result of irritation may have been stimulated to rapid growth and then assumed malignant type. The authors reviewed briefly the literature of the subject and called attention to the percentage of cases in which perforation of the eyeball occurs in these circumstances.

namely about thirty-seven per cent. In their own specimen perforation had not occurred, although the growth was of long standing. They also called attention to the youth of the patient, namely that the growth began when he was only 9 years of age.

Usual epibulbar carcinoma is found in individuals over 40 years of age. There are however a number of records indicating that this tumor may appear even as early as the fifteenth or thirteenth years of life. One reporter namely Rogman describes an epibulbar carcinoma in a patient 20 months old. The authors believed that the safest procedure in the presence of epibulbar carcinoma is thorough enucleation of the eyeball although in very few cases small growths especially those at a distance from the limbus, have been excised without recurrence.

Stallworth. Corneal Ulceration. *M. M. J.* 9, 4, 1917.

By Surg. Gynec. & Obst.

The article begins with concise consideration of the anatomy and physiology of the cornea. The author then speaks of the frequency of inflammations of the cornea as seen in the free dispensaries due to the poor hygienic surroundings, and the lowered resistance of this class of patients.

The first stage of inflammation of the cornea is infiltration of the epithelium which the leucocytes migrate to the diseased area. As a consequence of this the corneal vessels transparency taking on a clouded glass appearance. Absorption may take place in this stage and the process heal or the amount of exudate becomes incompatible with the maintaining and absorptive powers of the cornea. There is localized breakdown and ulceration of the latter structure. This localized loss of substance is recognized as depression. If healing begins the edges and the floor of the ulcer quite smooth and glistening luster and the process now to regress to stage. After destruction of some of the cornealstroma there is some opacity left.

Simple ulcer. These are the small marginal ulcers generally found in children, and also get them included the phlyctenules that have broken down. The symptoms are those of deep corneal ulcer. The treatment advised is mydriatic and irrigation with 5 per cent bichloride of mercury every three hours. If the phlyctenula ulceration per cent yellow oxide olive with the proper constitutional treatment.

Ulcer serpens or serpiginous ulcer follows the severe infections, usually pneumococcus especially when these result from trauma. They appear as disk, more deeply infiltrated around the edges, with the rest of the cornea presenting a normal appearance. A severe iritis and an abscess are concomitant conditions. The symptoms are erythema and the ulcer has a marked tendency to spread.

Non-suppurating ulcers. The dendritic ulcers are so named because of the peculiar shape not in-

like the branches of a twig. It occurs in young people of low vitality. The organism causing it has not been isolated. The symptoms are very mild. Zinc chloride solution (1/4 per cent) and treatment of the general condition is advised.

Malarial type of ulcer. This form of ulcer resembles the dendritic but occurs in people that give history of malarial attacks. General treatment with quinine and arsenic will cause it to disappear. Ulcers associated with gonorrheal ophthalmia, trachoma and herpes of the cornea are spoken of.

EARLE B. FOWLER

Chance Degeneration of the Corneas of a Man and His Adult Son. *J. Am. Ophth. Soc.* 9:3 May. By Surg. Gyner & Olsh.

These cases are examples of nodular degeneration of the cornea as found in two or more generations or in several members of a family. The men were aged 54 and 6 respectively and each had been practically blind since infancy. Their members of their family of five generations are known to be afflicted with or unusual afflictions of their sight.

Each of all four corneas as occupied by large but faint disk which covered the central two thirds of the corneal area while the outer third including the limbus was perfectly transparent and unaffected. The disks consisted of fine dotted groups of yellowish gray flocculent material or coagula, arranged in more or less radiating lines situated beneath Bowman's membrane and in the anterior layers of the stroma, as though resting between the membrane and the stroma. Here and there were glistening points like crystals. At the apex of the summit there were two larger bubble-like bodies which projected beyond the general surface of the cornea. The epithelium was intact and glistening. The discoid areas terminated somewhat unevenly in an indistinct radiating network. The center of each disk was condensed, outside of that was more or less transparent zone while beyond as another denser portion which ended in more or less diamond-shaped reticulations. The corneal membrane beyond the areas was quite clear and healthy showing neither infiltrate nor vessels. The crypts of the iris were deep the reactions prompt. A view of the fundus could be obtained but the vitreous bodies were presumably clear and the retina believed to be healthy.

The son's corneas presented the same characteristics as the father's except that the opacities were not so dense and were more reticulate. The surfaces were even, smooth and polished and distinctly sensitive.

The opacities were circumscribed and bilateral of approximately equal size in each eye and each person like the other's except that the son's were less dense or rather the lines were not so numerous. At first glance they looked like the residue of aInterstitial keratitis. At the center of the patches the masses were so close together as to be without arrangement and it was only at the periphery that

the reticulation was apparent. There were no signs of inflammation, no pain nor obliterated vessels. The irises were healthy. There was no criss-cross latticing of fine threads, as in Harb's and Freund's cases nor pigment dots as in Doyne and Stephenson's, and the surfaces were smooth as in Fehr's.

Each man was subjected to the Wassermann and to tuberculin tests, with negative results. A thorough study of their chemico-metabolism showed the same comparative percentages as found in healthy individuals and so also did the blood-count with the differential countings.

Harrower: Two Cases of Conical Cornea with Cataract. *J. Am. Ophth. Soc.* 9:3 May. By Surg. Gyner & Olsh.

These cases were reported on account of their rarity. They both occurred in the author's practice within the period of a year. One had thick nebula on the periphery of the cone. This was man of 67 who had been led by an attendant for two years.

He got vision enough to go about alone, and could read Jaeger's No. 8 although no glasses improved him.

The second case was a woman who had been operated on two weeks before this report was made. The vision was fairly good at the time the report was presented.

Samner: Control of the Eye in Cataract Operations. *Ophth. Rev.* 9:3 XXXIII, 95. By Surg. Gyner & Olsh.

The necessity of the absolute control of the lids in the intracapsular operation, as emphasized by Smith, is brought out first in this article. Samner then describes his method of lid control with pictures of his speculum and photographs of it in use, a method which he believes does away with the need of trained assistants.

In this speculum the portion of the upper blade which slips under the eyelid is narrower and projects under the lid much farther than in the rhodox instrument. The handle is curved to accommodate the index finger and the ball of the thumb rests on the spring. The assistant holds the speculum between the index finger and the thumb taking a firm grasp of it, while the other fingers lie against the side of the face. Pressure of the thumb on the spring end of the speculum acting through the index finger as fulcrum tilts up the eyelids to whatever extent is necessary. The assistant's other hand is spread out over the patient's head and, the eyebrow having been well drawn back, his thumb presses against the upper edge of the right. By flexing or extending the rest the upper blade may be made to slide under whatever portion of the upper lid most exposure is necessary according to the direction that the patient rolls his eye. By pronating or supinating the forearm the correct amount of lift of the eyelids off the eyeball can be obtained. The correct amount if the upper lid is enough room to clearly see the fornix where the patient may not roll his cornea out of sight the lower lid is to be held just off the eyeball.

with "bad squizzer" the lids should be held off the eye
EARL B. FORTIER

Reader: A Method of Dealing with the Capsule after Cataract Operations. *Ophth. Rev.* 9 3, 1911, 184
By Berg, Gyner & Olm.

The author emphasizes the importance of the complete removal of the capsule after cataract operation and the difficulty of doing this by the usual methods. The method that he has devised, and for which he claims very satisfactory results, consists in making a 1 mm. incision near the border of the cornea with an eye needle. Next a small hook similar to Tyrrel's iris hook, the curve of which is 1 mm. wide is passed through the opening made by the needle. The point of the hook is reasonably sharp and is almost but not quite horizontal to the shaft. The hook is passed in the pupil through an opening made by the needle under the opposite border of the iris. Traction is then made on the hook, and it is in the proximal margin of the iris when the point is turned so that it passes over the edge of the iris and through the capsule ensuring firm hold. It is then withdrawn through the corneal incision, and the operation is complete.
EARL B. FORTIER

Mallet: The Transcapsular Cataract Operation from the Viewpoint of an Assistant. *Ophth. J. M. J.* 3 11 73
By Berg, Gyner & Olm.

Mallet again discusses the work of the assistants in the intra-capsular operation and says some operators hold this function to be almost as important as that of the operator himself. He speaks of the usual relationship between the operator and between the intra-capsular per se as a very better vision than the capsular method.
L. G. DARRIN

Greenwood: Sarcoma of the Choroid Not Destroyed by the Ordinary Transillumination. *J. Am. Ophth. Soc.* 9 5, May
By Berg, Gyner & Olm.

Post-equatorial choroidal sarcomas are not readily demonstrated by the use of the ordinary transillumination and if situated far back are not at all so and often in such cases the diaphanoscopes may show nothing. If however the transillumination tip could be placed at the back of the eye, such tumors would be easily demonstrated and one object in reporting this case is to call attention to the value of the modified transillumination devised by Laxenberger.

This consists of a curved metal tube about the size of No. 9 Theobald probe and having in the concave surface at the tip, a small opening through which light is projected from a small but powerful electric light. That which is built into the handle can be attached to the socket of a small pocket battery and then the tip placed behind the eye through a small opening in the conjunctiva and Tenon's capsule.

The case reported is that of young woman

aged 31 who came with an eye of the stony hard condition of absolute glaucoma, with no possibility of using the ophthalmoscope or testing the field of vision. The Wurtzmann transillumination showed nothing. A sarcoma of the choroid was suspected from the age of the patient, the severity of the glaucoma, and the lack of trouble in the other eye. A sclerectomy relieved the glaucoma and when the eye cleared up it was possible to use the ophthalmoscope and see that there was growth in the back of the eye. Using the ordinary transillumination on the enucleated eye, an absence of light transmission was shown when the tip was held close to the optic nerve. On removing it more than 4 mm. from the optic nerve the light transmission reappeared.

Section of the eye showed spindle-cell melanotic sarcoma of the choroid 1 cm. in diameter with its center exactly over the optic nerve head.

The use of transillumination which could be placed close to the optic nerve could have obtained, in this case the other operations.

Harrower: Two Cases of Chronic Glaucoma Simpler Treated by Iridectomy. *J. Am. Ophth. Soc.* 9 3, May
By Berg, Gyner & Olm.

The author gives an extract from Borhen's article describing Borhen's reason for operating, and description of the operation. Borhen's results are so excellent that the author is encouraged to follow his method which he has in the cases reported. In both these cases the tension was reduced to normal, and the field decidedly enlarged.

In the first case, a woman of 60 the tension was at the end of ten months as good as before the operation. Tension normal, and the field enlarged. The second case was a man 59 years old, the field was decidedly enlarged, the tension reduced to normal and the vision improved from 8/20 to 20/20. This has remained so for ten months after the operation. The author hopes to report more cases in the near future.

Wheeler: Orbital Cellulitis: Fatal Case Following Disease of the Accessory Sinuses of the Nose. *S. & M. J.* 9 3, 1911, 860
By Berg, Gyner & Olm.

It is well-known fact that the nose and its accessory cavities are etiologically responsible for many of the orbital and ocular complications which we meet. Owing to the proximity of these cavities, disease is easily transmitted to the orbit, either through the vascular return or by direct and destruction of the intervening bony wall or by way of dehiscences, gaps or defects in this structure.

The case reported is that of merchant, 46 years of age, with exceptionally clear history. The only feature of importance was a swelling of the right side of the face extending over a period of years. The acute symptoms were swelling of both eyeballs, the same side reddening of the same, intermittent pain and pain on movement of the eyeball, the whole growing worse over a period

of three weeks. Vision was normal. Examination of the nose revealed turbinate hypertrophy with a profuse brownish dried discharge. There was dullness on transillumination on the diseased side and no pupillary reflex, but the frontal sinus was clear. The temperature was 100.5 F. The antrum was punctured through the inferior meatus, irrigation bringing out brown foul-smelling mucus with dirty bluish clumps. Pain was intense that night and by morning phlegmonous orbit cellulitis had set in. Operation was advised. The anterior and posterior ethmoids were broken down and filled with granulation tissue and small polypoid masses. A direct opening into the orbit was made out. The antrum was also drained. Four days later the inflammation had progressed to such an extent that exenteration of the orbit was performed. There was marked improvement for four days, then meningitis involvement began and death came eight days after the second operation. Autopsy was performed. Culture contained streptococci.

The case brings out the gravity of chronic sinus disease and some deep questions of operative indications which the author discusses.

CHARLES B. F.

Flaher Traumatic Posterior Lenticion. *Ophth. Rev.* 9: 322, 1917. By Surg. Grace & Galt.

Flaher refers to the collection of reported cases by Blodine Gousselin Welt and gives her conclusions that true posterior lenticion is diagnosable clinically on condition that two signs are satisfied: (a) deformity of the image obtained from the posterior surface of the lens, (b) the characteristic alteration in refraction of the peripheral and axial portions of the lens. If includes the possible explanations of this condition and the statement of Blodine Gousselin Welt that no reliable case of posterior lenticion as an acquired condition has been recorded.

The case reported is that of a medical man, 40 years of age. A blow over the right malar bone left him with black eye. Shortly after this he noted the vision in the right eye was blurring, causing difficulty with his near work. Three weeks after the accident Right V. 5/5 but only 1/2 Jaeger at thirty inches. Fundus and fields were normal. Diseases of the central nervous system were eliminated and a reading glass prescribed. Fifteen months later R.V. 5/30 with -0.5 D. Cyl axis vertical 90 the partly. The pupils were dilated with homatropine and cocaine and examination revealed definite protrusion of the lens at its posterior pole—an undoubted posterior lenticion. Vision through the peripheral part of the lens 5/6 without glasses. A Catherine-wheel appearance of the retinoscopic shadow and a dull central reflex were conspicuous. Nine months later refraction as more myopic and Jaeger was read at 12 inches without glasses. Five and one half years later the lens as complete opaque pupil and tension normal and the field satisfactory.

The interpretation of the case appears to be that

the concussion injury had caused a minute rupture of the capsule of the lens at its posterior pole. This was so minute that at first it caused no alteration in the curvature of the lens but it had the effect of abolishing or at least reducing its power of increasing in convexity when the ciliary muscles were thrown into action. Gradually a small hernia of the lens substance through the rupture produced the posterior lenticion so that eleven months the striking change reported in the refraction developed and the posterior lenticion which was recognized fifteen months after the accident explained this phenomenon. The sequel of events is sufficient to establish the accuracy of this explanation. If it be admitted as a case of true posterior lenticion, it appears to be the first on record as an acquired condition.

CHARLES B. FOWLER

EAR

Patterson Epithelioma of the Auricle and Cervical Glands; Removal of Auricle and Glands. *Lancet*, Lond. 19: 3, 1917, 66.

B) Scott, Gynec. & Obst.

The patient was a man aged 6. His right ear as injured six months previously. On the outer aspect there was an indurated non-ulcerated area raised above the surface and about the size of a shilling. Under the microscope the growth showed the typical structure of an epithelioma. The glands in the upper part of the right anterior triangle were definitely enlarged and very considerable mass lay high up underneath the sterno-mastoid muscle.

The second step in the operation was the exposure of the lateral sinus in the mastoid and the temporary occlusion of it by packing ribbon gauze between this and the skull wall. Then followed the removal of the auricle skin, and soft structures over the mastoid. The lateral jugular as exposed in the neck and divided between ligatures. A large part of the sterno-mastoid muscle was removed with the glands, fascia, and the jugular vein, the vein being divided as close as possible to the base of the skull. A dissection of all of the axillary glands in the lower part of the neck was made. Deficiency of covering for the wound was made up by skin graft.

Scott made numerous operations of the rays as a prophylactic measure. Only eleven months have elapsed since the operation and it is therefore too early to judge of the ultimate results.

The points of interest in the case are: 1. Such extensive glandular involvement occurring in association with comparatively limited growth on the auricle.

2. History of trauma six months previously. 3. The preliminary occlusion of the lateral sinus. This facilitates the removal of the lymphatic structure along the jugular up to the base of the skull. It prevents flooding of the wound from a nick or tear in this vessel. The author says he has not seen this method described and intends to use it in connection with the removal of enlarged glands in cases of malignant disease of the pharynx, tonsils, etc.

CHARLES B. FOWLER

Bryant: Th. Protective Mastoid Operation. *J. Am. Otol. Soc.* 9 3, May. By Surg. Gynec. & Obst.

As a adjunct to the curative endeavors of nature the protective mastoid operation enters into consideration when milder measures can no longer be expected to relieve the existing lesion. have filed it and so. It finds its definite indications in

All cases of middle ear suppuration resist the mild treatment, but with some residual hearing which will become progressively impaired because of the extension of keratosis and increased middle ear inflammation associated with the destructive process.

Possible causes of toxic absorption due to middle ear suppuration (with or without mastoid complications) which may be the source of the toxemia. By checking the suppuration of the ear, the protective operation destroys this source of infection.

3. Cases of middle ear suppuration (with or without mastoid involvement) which may be the focus of infection causing serious complications such as brain abscess, sinus thrombosis, or meningitis.

The selection of the protective mastoid procedure in given case of ear suppuration is called for by presumptive evidence of threatened serious complications or indications that the suppuration will not subside without this intervention, or in turn cause the hearing. The true elective procedures—conservative radical, modified radical, or simple mastoid—have the object from pathological standpoint to stop the suppuration from protective standpoint to forestall complications from functional standpoint, to preserve or improve the hearing.

The several types of radical mastoid operations become protective in the cases of chronic middle ear suppuration because they annihilate the infectious focus of the discharging ear which serves as the distributing center of more or less virulent pyogenic micro-organisms. At the same time they suppress the source of bacterial poisons and inhibit the danger of toxic absorption, permitting the restoration of the patient's normal health after the ear suppuration has been effectually controlled. While arresting the chronic middle ear suppuration the radical mastoid operations at the same time safeguard against terminal complications such as brain abscess, sinus thrombosis meningitis, broncho-pneumonia, nephritis, pericarditis, endocarditis, erysipelas, and bacteremia.

The varied technique of mastoid procedures, as derived by different writers for the radical cure of ear suppuration is uniformly based on the common principle of obliteration of the mastoid antrum. The author's preferred technique is the one least wasteful of tissue and in his conservative radical mastoid, in cases where the middle ear structures are lost or past all functional utility the middle ear is not carried and no tissue is removed from it. The antrum is opened widely into the auditory canal

the outer anterior wall of the attic is removed with its contents. The Eustachian tube is preferably kept open. The formation of a cicatricial drum-membrane is not hindered in any way. Results: Arrest of suppuration, a stable middle ear cicatricial condition, no painful dressings, shortened convalescence, no disfigurement and, taking into consideration the loss of the middle ear mechanism, maximum of hearing with improvement beyond the functional capacity prior to the operation.

The modified radical mastoid operation is adapted to radical cure of chronic middle ear suppuration when the middle ear sound transmitting mechanism is still capable of some functional activity. The operation field is approached as in the conservative radical but without obliteration of the attic, which is opened only as far as the preservation of the ossicles in position allow. Although the results in many ways resemble those obtained in the conservative radical mastoid, the modified operation serves to shorten the convalescence, and high degree of hearing, often above normal, may be secured in view of the fact that the permanence of certain degree of middle ear functional capacity is required for the performance of the operation. The hearing is improved beyond what it is prior to the intervention also in this operation.

In numerous cases of cut or subcut middle ear suppuration, with or without mastoid complications, the mastoid operation is called for as a protection when there is danger of the establishment of chronic middle ear suppuration which will certainly necessitate radical mastoid operation. The indications for the operation in these cases are based upon the Roentgen ray which should be employed in all acute cases of middle ear suppuration. Arrest of suppuration, stable middle ear condition, no painful dressings, moderately short convalescence—such are the results of the author's modified radical operation in acute cases of middle ear suppuration in solid mastoid bones. The results for the hearing are especially favorable and additional may actually become superior to the degree existing before the ear suppuration.

Infectious middle ear disease acute or chronic, with diagram of pneumatic cells communicating with the antrum calls for protective mastoid operation in order to avert the danger from imperfect drainage during the incubation stage of mastoid abscess or in resolving suppuration.

The author's simple mastoid operation includes the removal of the mastoid process, the obliteration of all affected bone, the removal of the valuable posterior ossicles (malleus) all between the annulus tympanicus and the facial ridge, the leveling of the edges of the bone wound and the longitudinal section of the membranous canal along the posterior inferior wall, the closure of the posterior wound with inversion of minor drain, followed by early removal. That is to say, his modified blood clot dressing. Convalescence in these cases is generally shortened, the hearing is often restored to normal, or above the

degree existing prior to the suppurative of the middle ear.

These mastoid operations not only comply with the command of the Nil Nocere but in view of the results obtainable in regard to restoration of function may be classed under the heading of reconstructive surgery of the ear.

Blackwell Exposure and Curettement of the Attic, Combined with Modified Blood Clot as Factors in Promoting Rapid Mastoid Healing. *J Am Otol Soc* 9, 3, May.
By Surg. Gynec. & Obst.

The paper is based upon sixty nine operations for mastoiditis, in all but three of which a modified form of blood clot healing was used, in an attempt to reduce the time of healing, diminish the pain of dressing and improve the appearance of the scar subsequent to mastoidectomy. In thirty-eight operations, in addition to a thorough mastoidectomy the attic of the middle ear was exposed and curetted without disturbing the ossicular chain. This was performed by taking down the posterior bony canal wall to within one quarter of an inch of the epitympanic ring of bone and with narrow curett removing the external attic wall working from within outward. In each instance the attic, all of the middle ear cavity lying above the level of the epitympanic ring of bone and the horizontal facial canal as found filled with infected tissue, which was removed, revealing the body and short process of the incus and head of the malleus lying in their normal positions. The author believes that the proximity to the clot of this infected tissue is sufficient to cause frequent infection of it and subsequent failure.

In all of the cases but three more or less iodoform gauze was placed in the mastoid wound at the conclusion of the operation. The amount of blood used to fill the wound varied considerably with each case. Forty-two were adults, seventeen were children and ten babies. At the end of the fourth week after the operation forty four cases were entirely healed. At the end of the sixth week all excepting three were healed. Nineteen of the cases are complicated by peniculous bones. Twenty-three had subperiosteal inflammation or abscess. The dura or sinus as exposed thirty two cases. None died. The hearing was not impaired in those in which the attic was curetted. The external auditory canal was always protected snugly to the conclusion of the operation, in order to prevent its collapse. Nine had chronic discharge from the ear.

The author believes, in number of selected cases of chronic discharge from the ear with good hearing presenting evidence of true attic suppuration only that the operation combined with without blood clot, or with or without plastic mental flap, will preserve the hearing and remove from the ear potential possibilities of menace. Also the duration of healing after mastoidectomy is very materially shortened, the dressings are less painful,

and the subsequent scar presents a much better appearance.

Randall A Skull Trephined for Mastoid Caries and Lateral Sinus Thrombosis. *J Am Otol Soc* 9, 3, May.
By Surg. Gynec. & Obst.

The specimen was given to the author shortly before the death of D. Ashhurst, dozen years ago with the statement that the patient had been operated on at the Episcopal Hospital thirty years before. The incomplete records of that date at the hospital fail to furnish substantiation or detail. The right mastoid region presents two rounded conical openings, the anterior entering the carious cavity within the mastoid the posterior communicating with the knee of the sigmoid sulcus. Both are eroded like the whole mastoid superficies. Thirty millimeters farther back, forty five millimeters behind the meatus and just below Reid base-line, button has been removed with half-inch trephine. The inner aspect shows erosion of the lateral sulcus from near the torcular forward to the knee where the anterior wall is gone and the sulcus merges into the carious mastoid interior. Two small openings enter the middle cerebral fossa.

The specimen tells an unmistakable story of mastoid caries opening back to form perilous abscess, inadequately drained by two drill-openings perfectly placed but insufficient in size. Later for what symptom we cannot learn formal trephining was done to deal with the lateral sinus but the sharp-cut opening tells that the patient did not long survive. It is very regrettable that the clinical details cannot be furnished but this much deserves record since it dates from some ten years before a common axiomatic on the subject by Zaufel, H. Riley or Lane.

Shambaugh When to Operate on the Labyrinth in Labyrinth Infection Secondary to Purulent Otitis Media. *J Am Otol Soc* 9, 3, May.
By Surg. Gynec. & Obst.

Shambaugh points out that the object of operating upon the labyrinth in labyrinth infection from middle ear disease is to prevent the development of an intracranial complication or to relieve an intracranial complication after it has once developed. It is only in the severe cases of labyrinthitis, that is, in cases where there is diffuse purulent invasion of the labyrinth, that the danger of an intracranial complication is sufficient to justify a labyrinth operation. Clinically it is not always possible to make a diagnosis between diffuse non-purulent (serous) labyrinthitis, with total suppression of labyrinth function, and a diffuse purulent labyrinthitis. Furthermore the danger from diffuse purulent labyrinthitis is not always the same. Some cases are much more likely to proceed to an intracranial complication than others. It is not always possible to make distinction between the cases of labyrinth empyema, where the danger of an intracranial complication is sufficient to constitute an

Indication for the labyrinth operation, and the cases where this operation need not be done.

In general, one may conclude that labyrinth operation is not called for in case of labyrinthitis where the function of the internal ear has not been completely destroyed unless there intervene symptoms indicating intracranial complication. The same procedure can be applied to all cases with complete destruction of the function of the internal ear whether they occur secondary to an acute otitis media in connection with acute exacerbation of chronic otitis media provided no clearly recognized indications exist for mastoid operation. A labyrinthitis which develops after mastoid operation even here it results complete suppression of function, may be treated in this way conservatively, unless symptoms develop indicating a intracranial extension.

On the other hand the cases of labyrinthitis where labyrinth operation seems to be clearly called for include:

First cases of labyrinth suppuration her clinical symptoms not suggesting beginning intracranial complication such as altered cerebro-spinal fluid, severe unilateral headache, etc.

Second, cases where the labyrinth suppuration develops as part of violent acute parotitis where the indications for mastoid operation exist.

Third, cases where the labyrinth suppuration develops as sequel to chronic purulent otitis media where all recognized indications for radical mastoid operation exist.

Fourth cases where the labyrinth suppuration is complicated by erosion of the labyrinth capsule by fistula formation into the labyrinth by facial paralysis by sequestration of part the hole of the labyrinth capsule.

Day, Indications For and Result of Operative Treatment of Otitic Meningitis. Surg. Gynec. & Obst. 9, 21, 300. By Surg. Gynec. & Obst.

The author has treated 57 cases of meningitis 53 of otitic origin, nasal and secondary to pneumonia. All are diagnosed as diffuse suppurative meningitis and 18 confirmed by autopsy. Four cases recovered, 3 operated and one with vaccine therapy. Meningitis followed by acute parotitis and its acute exacerbation twice as frequently as the acute form. The complicating acute type was more than the explosive form running rapidly fatal course. Meningitis following the bronchopneumonia more protracted course.

The treatment of the cases varied. The mastoid operation, simple or radical, as done in 48 cases. In 33 the operation was supplemented by other procedures. Cases by drainage 8 by simple section of dura for drainage 4 by uterine suction 3 by drainage of cerebra magna by drainage of lateral ventricle 1 by lavage 1 entered 4 by

transapical section of arotropin and of cyanide of mercury.

It is impossible to establish definitely the indications for operation. The operation is not one for cure of diffuse meningitis, but to prevent suspected localization from becoming diffuse. Indications of beginning invasion of the meninges are vague. Steady increase in blood pressure and edema of papilla, when present, is a distinct help in diagnosis. Lumbar puncture is the most reliable information as to the condition of the meninges. Presence of pus cells or pyogenic organisms in the fluid is usually considered diagnostic. A markedly increased number of polymorphous leucocytes with the presence of pyogenic organisms indicates hopeless condition. As no employed lumbar puncture seldom gives warning of threatened invasion. The virulence and not the individuality of the organism determines the course of the disease and the clinical condition of the patient offers no contra-indication to operative procedure.

The treatment of suppurative meningitis by drugs per os is absolutely useless. There remains, then local antiseptic vaccine therapy and surgical procedure.

Conclusions. Serum and vaccines are disappointing. Drugs introduced into canal, powerful enough to overcome infection are harmful to other organs. Dural drainage is effective to limited extent when used in circumstances favorable to good result. Drainage of cerebra magna is not up to expectations but it represents distinct step in advance to radical surgery. The mortality has not been changed by surgery and the successful treatment of otitic meningitis is still to be discovered. Our only hope at present is early diagnosis.

Dench, Report of Three Cases of Otitic Meningitis Treated by Drainage of the Cerebra Magna. T. Am. Otol. Soc. 9, 3, 218. By Surg. Gynec. & Obst.

The author reports three cases of meningitis of otitic origin. In the first case (tuberculous meningitis) could not be excluded clinically although the pathological findings on the examination of the cerebro-spinal fluid, Von Pirquet test and animal inoculation were negative. In the other cases the meningitis was unquestionably of otitic origin. In all three cases the cerebra magna was easily drained by an incision in the median line below the external occipital protuberance the removal of bone being continued into the foramen magnum. All of the cases terminated fatally. In the opinion of the author life may have been somewhat prolonged by the operation. It did not seem however that the procedure had been any more efficacious than the ordinary cerebellar decompression or decompression in the temporal region.

SURGERY OF THE NOSE THROAT AND MOUTH

Sluder: Further Observations on Some Anatomical and Clinical Relations of the Sphenoidal Sinus to the Cavernous Sinus and the Third, Fourth, Fifth Sixth, and Vidian Nerves. *J Am Laryngol Ass* 9 2 May

By Surg. Gynec. & Obst.

Sluder has previously expressed his belief that many cases of migraine are either sphenoidal empyema or nerve involvement by the extension of the inflammation. Its course through the thin wall separating the sphenoidal sinus from the adjacent nerve trunks. The results obtained during the past year strengthen this belief. From anatomical examination of specimens studied by cross section he found that the third, fourth, fifth, sixth, and Vidian frequently lie in close association with the sphenoidal sinus, and his findings, except for the Vidian, were corroborated by Ladislav Onodi. He found the sphenoidal sinus separated from the clivus of Blumenbach by transparent bone in some specimens demonstrating the association of the sixth. The early lateral spread of the sinus brings it in close proximity to the second division of the fifth at as early an age as two and one-half years. As early as the sixth year the Vidian canal is approached.

The underlying pathological process Sluder believes, is an hyperplastic sphenoiditis. The second division of the fifth and Vidian are most frequently involved.

The medicines which have so far proved of the greatest benefit are one per cent carbolic acid in oil, two-tenths per cent oil of wintergreen, and aqueous solution of sodium salicylate two fifths per cent.

EARLE B. FOWLER

Ra Hall: A Skull with Malformation of the Temporal Bone and Distortion and Absorption of the Basilar Region as if by Pressure of Naso-Pharyngeal Growth. *J Am Laryngol Ass*, 9 3 May

By Surg. Gynec. & Obst.

The massive edentulous skull seems that of a man of 70 years and is fairly normal on the right but the left maxilla is represented by irregular osteophytic nodules back of each rounded opening cm. in diameter enters the lateral sulcus and the cerebellar fossa. Its smooth beveled edges mark it as of long standing, probably congenital. The basilar process of occipital and sphenoid is thinned by absorption, especially of its under surface the back wall of the sphenoidal sinus, the pterygoid, the palate, and even the upper alveolus are pressed forward on the right as is the zygoma and malar but the nasal fossa are fairly symmetrical. The floor of carotid and vidian canals are gone the left, possibly broken off but probably absorbed as is the bone about

the greatly enlarged lacerated foramen. Through this opening the tumor would seem to have penetrated the brain-case and caused absorption and distortion even the foramen magnum by forcing the medulla over to the right. As there is no evidence of infiltration of the bone, the growth would seem to have been non-malignant, and the displacement of the maxilla and other changes suggest action in early life—it was probably an adolescent fibroma of the vault.

Reiff: The Value of Naso-Pharyngeal Surgery in the Treatment of Chronic Exudative Otitis Media. *J Am Otol Soc*, 9 3 May

By Surg. Gynec. & Obst.

A report of the careful observation of thirty-four cases of chronic exudative otitis media, seen in private practice without complications but associated with and believed to be dependent upon or still excited by some abnormality in the nose, pharynx or naso-pharynx. The purpose of the study was an answer to these two questions: What effect upon the ear can one logically expect from naso-pharyngeal surgery in such cases? And, why are so many surgeons skeptical of obtaining satisfactory results under similar circumstances?

The patients varied in age from 4 to 39 years and the deafness had been noted as progressing in periods ranging from six months to fifteen years. The abnormalities referred to consisted of hypertrophied turbinates, deflected septa, hypertrophied or a burred diseased tonsils, or adenoids. Careful hearing tests were made before and after operation, main reliance for the purpose of comparison being placed upon a test with self-controlled tuning fork. The operations embraced turbidectomy, tonsillectomy, adenoidectomy and submucous resection. Analysis of the effect upon the ears, the other treatment being employed, shows immediate improvement in hearing in thirty-two, no change in two and in no instance was the hearing rendered more defective. These tests were made within two weeks after the operation. It is also shown by tests made at later periods, varying from six months to five years from the date of operation that this improvement was maintained in thirty cases and fell back to the former condition in two in other words, thirty of the thirty-four are permanently benefited. The degree of improvement of hearing is not, however, considered by the author as sufficient to justify promising such patients that any of the lost hearing can be reclaimed; he considers it the most important thing to be able to say that the progress of the disease can be checked and further loss of hearing arrested.

His answer to the first question is, that simple exudative (catarrhal) otitis media, which is due to abnormal diseased conditions in the nose, throat can be arrested in its progress by removal of these conditions; that in such cases the progressive deafness can be stopped and further loss of hearing prevented; that in some few cases the hearing power may be materially improved. Referring to the reason why some observers have been skeptical of obtaining such good results the author states his belief that generally these disappointments have followed incomplete or improperly performed surgical procedures and he explains the necessity for special skill and care in naso-pharyngeal operations done for the otologist. Success of the kind stated above depends upon the proper performance of naso-pharyngeal operations so that there shall be complete and thorough eradication of the abnormality without injury to neighboring normal structures.

Shambaugh: The Facial Tonsils as Focus for Systemic Infection. *T Am Laryngol Ass* 9, 2, May. By Surg. Gynec. & Obst.

The author has had rather extensive experience with cases of this sort. He believes that the faucial tonsils are much more frequently a focus for systemic infection such as acute or chronic articular rheumatism, nephritis, acute endocarditis, and chronic cardio-vascular degenerations than is usually suspected. This relation is more thoroughly appreciated by the leading internists than by the specialists.

The author calls attention to the conditions about the faucial tonsil that he has observed in cases where these structures are clearly shown to be the focus for systemic infection. A small tonsil is as frequently the seat of such foci as is the hypertrophied tonsil. Quite frequently no expression by pressure upon the base of the tonsil creamy exudate which is largely pus. Very often the tonsils contain foci of pus causing systemic infection where the patient is not aware that he has ever had inflammation of the tonsil. Not infrequently too, the author has removed tonsils which were suspected as harboring foci causing systemic infection where there was no history of attacks of tonsillitis and where nothing in the appearance of the tonsil suggested tonsil trouble, and yet on their removal he has found in the depths of the tonsil pockets of pus which contained virulent streptococci. Observations of this kind have led him to be less dogmatic in asserting from the inspection of the tonsil, that the structure may not contain foci of infection. In any case where patient suffers from chronic focal infection and where competent internist is unable to discover any other probable source the faucial tonsils should be suspected.

As regards the treatment of tonsils suspected of causing systemic infection, the author advises the complete enucleation. In children this is done under ether. In adults it is done preferably under local anesthetic application of 1 per cent cocaine solution.

drocain, rubbed over the tonsil and the submucous injection of 1/2 per cent novocaine solution. The tonsil is dissected free by the use of a scalpel with rounded tip. The tonsil is then removed with snare. In adults high blood pressure or slow coagulation time are contra-indications. In these cases a slitting of the tonsillar crypts is preferred.

Clark: The Results in Series of Cases of Tonsillectomy Three to Four Years After Operation. *T Am Laryngol Ass*, 9, 2, May.

By Surg. Gynec. & Obst.

These cases were, with three exceptions, under fifteen years old at the time of operation. The author requests to report, 143 cases responded in person. Only one case had post-operative hemorrhage deserving mention. Among the reasons given for tonsillectomy were sore throat, tonsillitis, cervical dentitis, chorea, rheumatism. The ailment for which the tonsils were removed was relieved in all but very few cases. All but twenty-four cases showed improvement in the general condition after operation. Fourteen of the twenty-four were in good general condition at the time of the operation. The lack of improvement in all but three of the remainder was due to conditions not related to the tonsils.

Since the operation, one patient has had nasal diphtheria, four have had measles, two whooping cough, one neuritis, chorea, one bronchitis, four pneumonia (one doubtful), five abscess of the ear, and twenty-two sore throat. There has been no change in the voice or speech since the operation in 6 cases. Improvement in twenty-two and condition said to be worse in 10. Enlarged cervical glands were absent in ninety-eight cases. Tonsil tissue as absent in eighty-two cases, still present

both sides thirty-one, and on one side only in twenty-eight cases. Cases in which there is no doubt of the presence of lymphoid tissue in the tonsils were counted in the affirmative. Some of these were no doubt due to hypertrophy of an extracapsular lymphoid focus. The soft palate was symmetrical in 30 cases, asymmetrical in eighteen. In four cases the uvula had been partially or wholly excised. The facial pillars were normal in ninety-six cases, not normal in forty-one. The pillars were considered not normal when one (or more) was bent or when anterior and posterior pillars were fused, or when one or more of them showed concentric contraction. The tonsil fossae were present on both sides in 16 cases (sixteen of these shallow) and one both bent in twenty-six. Carious teeth were noted in twenty-one cases. Three cases of enuretes were not relieved. More than half the cases who said they still had attacks of sore throat showed no tonsil disease whatever and in many of those which showed tonsil remains it was quite obvious that the sore throat was not due to the tonsils. Of the thirty-three cases in which tonsillitis was the reason for operation, only one (an incomplete operation) was not cured. Only sixteen pa-

tients have had a y definite ill esse since the operation. The speech was apparently unaffected by asymmetry of the soft palate or pillars or by loss of the uvula. In the two cases in which the speech was said to be not so good the palate and fauces were perfectly normal. Forty-three cases showed one or more enlarged cervical glands but in not one of these could any symptoms be attributed to their presence. In most of the cases in which there were glands there was a small tumor on the same side. On the other hand, in twenty-six cases in which there were tonsil remains there were no enlarged cervical glands. Carious teeth seemed to bear causative relation to the glands in some cases.

O'Malley: Enucleation of Tonsils and Removal of Adenoids under Gas Anesthesia. *Brs. M. J. 9 3 4, 699.*
By Surg. Gynec. & Obst.

The article describes in detail the method of tonsil enucleation as devised by Shuler with such modifications as the author considers desirable. The use of gas is advocated where everything is convenient and trained assistants are at hand. In addition to the usual preparation for general anesthesia the following mixture is given one day before the operation and six days following:

Sodium salicyl	
Potass. bicarb	
Potass. chlor	ss gr
Elm. aromat (B.P.C.)	m. ss.
Aq. chlorid	℥. ss. jss.

Dose: 1 dr. 4 times. This is given for its local and general septic action and to counteract any septic bacæmia from the raw surfaces.

The table is placed parallel to window and the operation stands between daylight when possible. The patient is placed on his back with head turned toward the operator for the tonsillectomy and on his right side for adenoid my. The author uses Ballenger Shuler tonsillectomy with dull edged blade and the slot intended for the reception of the blade filled with lead so that the blade cuts against this. The instrument is inserted and the ring threaded under the lower pole of the tonsil, the handle carried to the opposite angle of the mouth and pressure exerted so that the tonsil comes to lie over the opening and bulges against the anterior pillar. The index finger of the left hand, pressing against the outer edge of the pillar, inverts the tonsil through the ring and the blade is then closed down.

The adenoids are removed with Gottstein's curette with spring cage to retain the removed tissue. The removal of the tonsils requires about 4 to 5 seconds for each and the removal of the adenoids about fifteen.

EARLE B. FOWLER

Duncan: Adhesions of Uvula and Soft Palate to Posterior Pharyngeal Wall in Girl aged 12. *Proc. Roy. Soc. Med. 9 2, vi, 81.*
By Surg. Gynec. & Obst.

The patient was sent to the hospital because of imperfect nasal respiration. There was no history

of throat affection and there was no family history of note. A bent probe was hooked around the uvula which became detached and shrunk to a third its former length. Suggestions as to the probable cause and the most suitable treatment were requested.

McKIMMER said that he had operated twice on similar cases without success. The best result that he had seen was on a case in which Grant removed part of the bony palate and after the operation brought the uvula forward with a suture and attached the suture to one of the incisor teeth. Another method was to put in long rubber tubes, one in each nostril, bring them out of the mouth and attach them outside.

DESAINT referred to a case in which Spencer transversed the rolled-up soft parts with a silver wire and passed the ends of this through the mucous peristoma of the hard palate. Contraction occurred in this case later but no further adhesions. He had a case ten years ago in which he used the same procedure and there had been no contraction.

ROBINSON mentioned a case he had shown in which lead plate with silk thread at each corner had been bent and passed around the detached soft palate with two of the threads through the nose. The plate was kept in position for a fortnight.

ALSTADT had used both rubber tubes and lead ribbons with moderate success.

POWERS said that he had obtained good results with tubing but that it should be retained for a long time to prevent readhesion.

POWELL spoke of a case in a young woman in which he had grafted over the exposed surface part of a held prepure from which the skin had been removed. The result had been very satisfactory after period of eight years.

EARLE B. FOWLER

Grove: Certain Disorders of the Adenoid Operation. *Bull. Johns H. Sp. 11 8 9 3, 20.*
By Surg. Gynec. & Obst.

Grove controverts the generally accepted belief that the adenoid operation is a simple and absolutely harmless procedure and in this paper he discusses the most frequent and dangerous complications of this operation. He places them in two general groups: first, the post-operative bleeding; second, post-operative infections. His consideration of the complications in group one is dismissed with the statement that post-operative bleeding can be of a very severe nature and he quotes from the literature in two instances, recording eleven cases of fatal hemorrhage after the adenoid operation.

The second group, the infectious complications of the adenoid operation, he considers in great detail, and takes up in his discussion the following post-operative complications: Fever, general sepsis, endocarditis, acute rheumatic fever, the acute infectious diseases of childhood, tonsillitis, adenitis, toricollis, lung infections and meningitis, and points out their causal connection with the bacterial content of the nose and naso-pharynx. The

author reports 10 of his own cases in which, following the adenoid operation there was, a few days later, infection of the accessory sinuses of the nose.

In conclusion he warns against operating when there is any infectious process present in the nose, naso-pharynx or ear, and also during local epidemics of the acute infectious diseases of childhood, especially if the patient had come into any sort of contact with children ill of these diseases. And finally he believes that this operation should be done in hospital, and the cases kept under observation for a considerable period of time.

GROUX E. BEAUX

Burgues. Direct Endoscopic Examination of the Larynx, Trachea, and Bronchi: Technique, Indications and Results. (*L'endoscopie directe du larynx, de la trachée et des bronches: technique, indications, résultats*) *Thèse de doct. Montpellier* 1913. *Hy Journal de Chirurgie*.

This work states briefly the exact condition of this question and gives some original practical advice from Moutret who edited the paper.

After describing the Killian endoscope of Brunings (bronchoscope capable of lengthening and external lighting) Burgues describes the technique of superior bronchoscopy, anaesthetization of the larynx, trachea and bronchi, its routine, the position of the patient and the course of the examination.

In discussing the position of the patient he insists on the one recommended by Moutret.

Laryngologists who practice superior bronchoscopy are preoccupied with obtaining obliteration of the buccopharyngeal angle by forcibly extending the head. No attention is paid to the position of the body or basin as long as the head does not slide forward. Moutret proposes to put the patient in position in which the trunk and head will be bent forward. The position of the head is that which the passage of the tube forces it to take. Moutret has the patient sit astride a chair, seize the back tightly with the anterior surface of the neck almost touching the back of the chair.

The advantages of this position are as great in oesophagoscopy as in tracheoscopy.

Burgues states that the chief indications for direct endoscopy of the trachea and bronchi are the presence of foreign particles.

A table is given of eighty-seven cases of foreign bodies in which superior bronchoscopy was performed. Three of these cases are Moutret's. The first was a cherry stone which had lodged far down in the first branch of the left bronchus. Extraction was not possible as the foreign body could not be reached with the tube. In the second case a coffee grain was extracted from the right bronchus of a child five years old. In the third, a large-headed tack, which had lodged in the left bronchus of a child of eleven years, was removed. The last 10 had an uneventful recovery, but the first died of broncho-pneumonia.

A complete alphabetical index concludes this work.



FIG. (DUTRON)

such is the most recent and the most complete in the French language. E. J. VERA

Sunderland. Tuberculosis of the Larynx. *Brit. M. J.* 1913, 703. B. SARR. *Gynec. & Obst.*

McKenzie classifies tuberculous growths in the region of the larynx into three groups: (1) Granular hyperplasia in connection with tuberculous ulcers, (2) papillomatous excrescences, vegetations and tumors, probably papillomatous tissue infected with tubercle bacilli and sometimes the only visible signs of tuberculous infection, (3) true tuberculous tumors—extremely rare—composed of closely aggregated miliary tuberculous nodules, and occurring independently of infiltration and ulceration of the mucous membrane.

The first case reported is a male 60 years old who complained of choking on lying down and difficulty in swallowing lasting for a period of three years. There was no other evidence of tuberculosis. The laryngoscope revealed papillary growths throughout the broad base and regular surface extending from the posterior surface of the right arytenoid cartilage down and into the hypopharynx toward the esophagus. There was no ulceration and no enlarged glands were felt in the neck. Microscopical section showed considerable number of giant cells, epithelioid cells and lymphocytes. A diagnosis of tuberculosis was made. The growth was removed with cutting forceps and galvano-cautery and the surface rubbed with lactic acid. Symptoms were

relieved but returned in five months. A protrusion of the foregut caused coughing-spasms and had to be given up. The patient died of exhaustion seven months later.

A tuberculous is generally covered with smooth intact mucous membrane of a pale gray to a dark red color. The disease is usually found between the ages of twenty and forty-five and is also growth. It is more frequent in males and is generally associated with a primary focus in the lungs. The results of treatment in a few cases of true tuberculous intralaryngeal tumor in the absence of any demonstrable lung changes have been excellent. This was due no doubt to the fact that operative interference and topical applications could be followed by more or less complete rest of the parts. The author then cites cases of cancer of the larynx in which recovery was complete after ten months of treatment and rest.

Royal. Cancer of the Tongue. *Ann. N. Y. Acad. Surg.* 1907.

Syphilitic lesions of the tongue lower the resistance power of the organ, rendering it vulnerable to infection of all kinds. The primary sore is a small, foul, ulcerous plaque of the secondary stage, but by no means uncommon, but it is especially from the later or tertiary lesions that dangerous sequelae ensue. These tertiary lesions occur not only in cases of neglected or insufficient treatment, but also here the most rigid mercurial treatment has been carried out. All cases of syphilis by no means exhibit tongue lesions and often appear to be peculiarly exempt. Correlated with the high percentage of syphilis in the histories, an equally large number are found to be smokers and/or heavy smokers. The author is convinced that even the use of tobacco discontinued from the onset of symptoms of syphilis until when, after thorough treatment, the Wassermann reaction is still remains negative, tertiary manifestations in the tongue could almost cease to exist, and cancer of the tongue would be rare. These patients are accustomed to having sore tongues so when the process becomes cancerous the seriousness of it is not appreciated. The lymphatics are early infected and as there is free anastomosis of the lymph channels, though the growth be only on one side of the tongue, both sides of glands are usually involved. The diagnosis should be definitely established by excision and examination. If syphilitic treatment should not be depended upon.

The treatment is separated into three headings: (1) preventive, (2) radical, and (3) palliative. Under preventive treatment comes abstinence from tobacco for syphilis. The treatment of all syphilitic lesions of the tongue should be carefully checked by Wassermann tests. The author considers the radical excision of the tongue necessary. This is done in three stages: first, the removal of the tongue and the dissection of glands from one side of the neck; second, the removal of the glands from the

other side. Under palliative treatment the author strongly advises the removal of the tongue even in advanced cases. He tried ligation of the linguals and external carotids in the hope of starving the growth but this was not satisfactory. He also tried the ligation of the vessels with paraffin in one case; the result was good but cure did not follow. Where the lesion is very minute a very wide removal might suffice but the larger operation even then would be best. By an incision carried from behind the angle of the jaw along the anterior border of the sternomastoid to opposite the sterno-clavicular articulation and another from beneath the tip of the chin to meet this at right angles, the anterior triangle is first cleared of the fascia, fat and lymphatic glands belonging to the submental, submaxillary inferior parotid and carotid groups, taking care to prevent tearing of these as cancer implantation followed by recurrent nodules, or more frequently widespread and rapid malignant induration of the whole side of the neck might result. Drainage tubes are inserted before closing this wound to remove blood-stained exudation or secretion from any of the salivary glands, or in case communication is accidentally made with the oral cavity. Thereafter the mucous membrane of the floor of the mouth and the frenum is divided. Drawing the tongue to be pulled forward and the lingual arteries ligatured. The tongue is divided transversely as far back as possible and the mucous membrane of the floor of the mouth sutured vertically at the top of the wound.

Smyth. Alveolar Alveolar Cleft. *Proc. Roy. Soc. Med.* 1907.

By Henry Smyth, M.D., & Others.

The patient, a boy of 6, had tender swelling below the lip. A few days later the tooth (a tooth made its appearance being directed almost exactly downward. The tooth, except for some hypoplasia of the enamel was normal.

On examination of the mouth showed that both the right lateral incisor and cuspid were absent from their normal positions, the mandible. The history of the case brought out the fact that the child, at about three and one-half years, received blows upon the chin and that subsequently a piece of dead bone was removed. The author surmises that the presence of the unabsorbed retained the tooth downward.

If A. Potts.

Ochsner. Cleft Palate. *New Orleans M. & S. J.* 1907.

By Surg. Ochsner & Others.

The author here reports that there has been admitted to the New Orleans Charity Hospital, between the years 1900 and 1907, twenty cases of complicated hare-lip and fifty-four cases of hare-lip and cleft palate in children. In adults ranging in years from fourteen to thirty in years there have been four cases of hare-lip and nine cases of hare-lip and cleft palate. Comparing the number of cases treated in other hospitals, especially by Lane and Mayo, which are greatly in excess of this

report, the author concludes that the dearth of cases treated in Louisiana does not represent the number of resident cases but that most of them do not seek surgical relief, the cause being that on account of the difficulties which the operation presents the surgeons are loath to attempt it.

The author after citing the views of other men and quoting from Jacobson and Steward concludes that the best time for operating is some time before the child begins to talk but drawing no hard and fast rules regarding it. As to the choice of operation, the author advocates as practiced by most men some modification of the Langenbeck operation, and when one side of the cleft projects beyond the other they are brought together with silver wire suture somewhat after the method proposed by Brophy reducing the intermaxillary bone when it projects by resecting a portion of it.

After discussing the Brophy operation the author

gives the basic principles which underlie the operation: first, abolition of tension by absolute relaxation of flaps; second, good blood supply to the flaps; third, proper coaptation of broad raw surfaces.

The author favors doing the operation in two sittings, the first one comprising only the creation of the muco-periosteal flap then allowing the blood supply to regenerate when the closure can be more certainly effected. He also deprecates the subsequent use of antiseptic and dehydrating agents, also frequent examinations. He also seeks to void bacterial infection (post-operative) by gastric lavage, encouraging vomiting by inducing the child to drink a large amount of water.

The author believes that closure of the cleft before the child begins to talk does remedy the speech defect, and even though it be done late the defect may be overcome.

H. A. FORR.

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INTERNATIONAL ABSTRACT OF SURGERY

SEPTEMBER, 1913

ABSTRACTS OF CURRENT LITERATURE GENERAL SURGERY SURGICAL TECHNIQUE

ASEPTIC AND ANTISEPTIC SURGERY

Aspetto Disinfezione delle Mani in Chirurgia Clin. chir. 9, 3, 20, 33.
By Zentralbl. f. d. ges. Chir. Göttingen.

In an extensive series of experiments the author has endeavored to determine the value of the various methods of disinfecting the hand. During the different phases of the operation the fingers of the operator were dipped into a sterile 1 per cent gelatine solution for 5 seconds. They were rubbed against each other. The gelatine had been hardened by freezing. It was not kept for eight to ten days at 18° C.

The author comes to the following results: (1) Continued washing with warm water and soap with a sterile brush, is not sufficient to remove the germs from the skin; the result is no better if the washing is continued for a long time. Drying the hands with a sterile towel has no effect. (2) In order to reduce the number of germs, the use of alcohol is indispensable. Cleaning with alcohol without previous disinfection with soap and water gives the best results. It is to be recommended 4 to 5 times for disinfecting the skin previous to an operation. (3) Washing the hands with 1 per cent bichloride of mercury solution after the usual method of disinfecting has no effect on the number of germs in the skin. (4) During the operation the germs migrate from the hands into the wound, and in spite of this migration the wound heals. (5) Hands washed for ten minutes with water then for five minutes with alcohol and later covered with gloves, are actually sterile; the gloves must be put on properly and washed once more for at least 60 seconds with alcohol. (6) The staphylococcus albus and the ordinary saprophytes of the air are found most frequently on the skin. (7) The concentration of the alcohol, its admixture with iodine or ether is of little importance; its denatured form, is of no special importance.

In conclusion, the following methods are recommended:

For emergency disinfection wash for ten minutes in alcohol (70-95 per cent) either grain or wood spirits.

For ordinary disinfection, wash with water and soap for ten minutes, and then for five minutes in alcohol.
Moscova.

Giustino Disinfezione della Pelle con Tinctura di Iodio (Contributo clinico-statistico alla disinfezione della pelle con tinctura di Iodio). Gazz. d. med. d. Chir. Milano, 9, 2, 112, 113.
By Zentralbl. f. d. ges. Chir. Göttingen, a. d. Göttingen.

Most of the Italian surgeons favor the use of the Gross method of disinfection of the skin with the tincture of iodine. In various Italian clinics it was determined by means of bacteriological experiments that the results were best when the tincture of iodine was painted on the dry skin, and that it was not so good when soap and water had been used previously. Probably after washing the skin with soap and water the iodine is not able to penetrate the excretory ducts of the subcutaneous and sweat glands. Some disadvantages were reported from several clinics from the use of the tincture of iodine, e. g. eczema, erythema, and toxic albuminuria. Three post-operative cases of death (Biesolsky, Moscowitz, P. Ivis) have been reported outside of the Italian Union, where the cause of death was charged to the use of the tincture of iodine. The author thinks these three fatal cases cannot be due to the action of the iodine alone and that the other injuries mentioned also could have been avoided by the proper use of this method. He uses a freshly prepared solution of six parts of iodine to 100 parts of 95 per cent alcohol, paints it on the dry skin twelve minutes before beginning the operation and once more two or three minutes later. In a series of 350 cases prepared in this manner for operation, he reports splendid results.
Hermann.

Liekmann. Modern Treatment of Wound and First Aid (Moderne Wundbehandlung und erste Wundversorgung). *Zentralbl. f. Chirurgie* 2, 934. By Zentralbl. f. d. ges. Chir. u. L. Gernsberg.

The author recommends the bolus ointment introduced by him, consisting of bolus alba, alcohol and glycerin, and his bolus soap for general use. The soap simplifies the skin disinfection of the hands and of the field of operation, only three minutes being necessary. Water and brush are superfluous when the past is used, as are all other chemical antiseptics in the preparation of wounds. It is cheap (50 gm. sufficing for fifty dressings) and can easily be carried anywhere in small tubes. These are not all the advantages, as it is inflammable and can be used for emergency sterilization of instruments.

GERMANY.

ANÆSTHETICS

Delajensiers. General Anæsthesia with Lessened Circulation or Exclusion of the Four Extremities in General Anæsthesia (Anæsthesia general con circulación reducida ó exclusión de los cuatro miembros en la anæsthesia general). *Clinica med.* 9, 25, 36 and 44. By Zentralbl. f. d. ges. Chir. u. L. Gernsberg.

The author has used the method in 14 cases of chloroform and 35 cases of ether anæsthesia. It is important to apply the banders rapidly so the narcosis can be begun as soon after as possible, because patients complain of disagreeable sensations at the sites of application, even after several minutes. The limbs must be ever filled with blood, so the author recommends lowering the limbs for a short time before applying the banders. If the constriction was not complete, and venous stasis occurred small intracutaneous hemorrhages are found after the removal of the constrictors. These disappear shortly leaving no evidence.

Regarding the influences which the diminished circulation exerts upon the whole organism the following is important: respiration is quickened and more superficial. Delajensiers has observed average respirations of 30-35 per minute. The polypnea begins to regress the moment one bander is removed and returns to normal only when all the banders are removed. The pulse remains unaltered. The blood pressure drops 5-7 cm. A recalc acts much more rapidly than with the usual method. Usually five minutes are required to produce deep sleep as contrasted with nine minutes for the customary anæsthesia. This advantage is seen especially in narcotizing alcoholics. The amount of anæsthetic required is about 50 per cent less. The patient wakes up much more quickly and 4 times may wake immediately. The greatest drawback seems to be the absence of the organic disturbances which so frequently accompany chloroform narcosis. Vomiting is much less common and less severe. Post-operative albuminuria is practically absent.

Delajensiers frequently noted the distinct d

vantages of this method in collapse. The loosening of one or two constrictors sufficed to overcome this accident. Entirely apart from the diluting of the blood saturated with the narcotic, the blood from the extremities, loaded as it is with carbon dioxide, has an important rôle in stimulating the medulla oblongata. Thrombophlebitis was seen by the author in only four cases. Three of these were gynecological in which the pressure of the leg rests on the dilated popliteal veins may be blamed. The 10 deaths seen by the author cannot be ascribed to the anæsthetic, because both patients had been given up before the operation. The author considers severe myocarditis and phlebitis as strict contra-indications. Absolute indications are affections of the liver and kidney as well as alcoholism.

LAUSANNE.

French. Nitrous Oxide Gas, Essence of Orange, Ether and Acupuncture (General Anæsthesia for Operations) the Upright Position. *N. Y. M. J.* 9, 3, 270, 271, 272.

By Borg. Gynec. & Obst.

The author expresses the belief that more difficult operative work can be done less blood lost and less anæsthetic required in operating in the upright position. There are also fewer disagreeable symptoms during the recovery stage. A new operating table-chair is presented. Since using this table-chair there has been marked improvement in the condition of the patient during and after the operation.

The stage of excitement can be bridged by nitrous oxide but in the opinion of the author it can be done with greater ease and certainty with the essence of orange and ether. It unquestionably requires large experience with the administration of nitrous oxide gas to enable one to do it all so accurately with the ether which follows that the stage of excitement will be eliminated. From tests which were carried on for over a year the author is convinced that about from the loss of blood and from the anæsthetic can be materially reduced by the manner of administering it. It states there is no question but that hemorrhage is reduced if the anæsthetic from the beginning is smoothly administered, the second stage omitted and the patient brought to full surgical anæsthesia without jarring or body disturbance of any kind. The uniform employment of helpful mental suggestion by every individual in contact with the patient up to the time of induction of anæsthesia assists in preventing an excessive discharge of nervous energy through fear which is one of the elements in the "anæsthetic association of Celsus." If induction has been satisfactory the anæsthetic not only should be, but must be in many cases, diminished in quantity or withdrawn, as soon as the upright position has been attained, to prevent narcosis becoming too deep for safety. When reflexes begin to reappear the anæsthesia can be continued by the occasional administration of the vapor through the mouth. The fact that only half, or less than half of

th usual quantity of ether is required to maintain anaesthesia with this method should not deceive one into believing that only partial anaesthesia is obtained, for it is in reality a full one.

The sequestration method, in association with the upright position, which has been carried out in fifty-eight cases, reduces still further the loss of blood and the amount of anesthetic required. Full anaesthesia is maintained for fifteen to twenty minutes after the body is brought to the upright position and the inhaler removed. The average blood loss with the sequestration method whether applied to arms and legs or legs alone, is far below that which occurs with out sequestration, and certain operations which with ordinary methods are usually attended with a large loss of blood may be rendered practically bloodless by its use. The method consists in producing hyperemia of the limbs by means of inflated blood pressure cuffs. These are applied to the arms and legs or to the legs alone. It reduces the amount of blood in the head. No hemorrhage occurs after releasing the cuffs. The amount of pressure made with the cuff varied from that needed to produce complete obliteration of the pulse and that needed to produce only a slight change in injection of the nerves was noted. This is explained by the fact that the pressure was distributed over a wide area and that it was made by flexible air bags. The pressure was maintained from the end of the induction stage to the time of completion of the operation.

By this method the operator is therefore enabled to administer smaller quantity of an anesthetic and obtain full anaesthesia. He sees the patient put to sleep without the stage of excitement to stop the administration when the body is brought to the upright position and yet have the anaesthesia prolonged enough to permit relatively long operations to be performed to secure a greatly lessened loss of blood and to insure reduction in, and many cases an almost complete, abolition of the disagreeable after-effects. It is thus that operations are robbed of their terrors for the patient.

EDWARD L. CORKEILL.

Strickland. Injury of the Phrenic Nerve in Local Anaesthesia of the Brachial Plexus (*Zur Frage der Phrenicuslähmung nach der lokalen Anästhesie des Plexus brachialis*). *Zentralbl. f. Chir.* 9, 3, 31, 397. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author reports a case in which he had occasion to induce local anaesthesia of the brachial plexus in a man 30 years of age. Though in other cases he had always found the plexus very easily here he was unable to find it even after a long search. The patient became restless and complained of severe pains at the point of injection. The operation which was not pressing, was given up and the needle withdrawn without a drop having been injected. The patient went home. Immediately afterwards severe pains began over the entire left side of the breast and gradually increased in intensity. Breathing was embarrassed and the patient felt very sick.

For the next few days the breath sounds on the right side were markedly decreased. There was no fever the pain gradually diminished and after two and one-half weeks disappeared entirely. The author thought first of an accidental intercurrent of pleuritis, but the clinical picture did not confirm this supposition. He thinks it most probable that as a anomalous branch of the phrenic nerve was injured by the needle or perhaps there was an unusually high anastomosis with the brachial plexus. At any rate a certain amount of caution should be observed. Anaesthesia should not be performed on both sides at the same time and the injection should not be made until the presence of paresthesia is determined.

KULAKOWITZ.

Rost. Anatomical Investigations of Some Cutaneous Nerves, Important for Local Anaesthesia, with Regard to the Point at Which They Penetrate the Fascia (*Anatomische Untersuchungen einiger für die Lokalanästhesie wichtiger Nerven des menschlichen Rumpfes durch die Fascia*). *Deutsche Zeits. f. Chir.* 9, 3, 331, 337.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Rost calls attention to the variations in the point of exit of the cutaneous nerves through the fascia. As a result successful local anaesthesia is often rendered rather difficult. To intercept the cutaneous nerves of the anterior surface of the thigh, Rost recommends the infiltration of the operative field as well as the skin and fascia beneath the popliteal ligament and finally the trunk of the femoral nerve should be interrupted. Because the cutaneous nerves vary in this region no rules can be laid down for their injection. The cutaneous nerves of the cervical plexus are anesthetized by infiltrating them at the posterior border of the sterno-mastoid muscle, as they cannot all be reached at the middle of the muscle border as is often claimed. To anesthetize this territory properly the great occipital nerve must be interrupted along its course as well as along the lines *nuchae superior* and parallel with the border of the trapezius as this nerve is in communication with the cervical group.

HIRSCHMANN.

Meyer. Local Anaesthesia and Anaesthesia of Nerve Trunks (Beiträge zur Lokal- und Nerven-anästhesie). *Beitr. u. Klin. Chir.* 9, 3, 333, 339. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author describes as fragmentary local anaesthesia the process of anesthetizing only the skin at first, and then the deeper parts during the operation. This procedure makes it easier to find the large nerve trunks, because the patient can localize it himself if slight pressure is applied over the region of the nerve. Moreover, it sometimes aids in the finding of deep-seated foreign bodies. Meyer also suggests anesthetic solutions in inflamed cases. He believes that sometimes healing takes place more quickly when this is done, as inflammatory processes are inhibited by local anaesthesia. In replacing fractures, he has found it advantageous

to 1 feet anesthetic solutions to the site of the fracture. It also recommends the injection of such solutions into the joints for diagnostic purposes, and in making passive movements in chronic arthritis.

For anesthesia of the shoulder region, he combi es Kolenampff's plexus anesthesia with the elimination of the supraclavicular nerve by linear subcutaneous injection along the edge of the sternocleidomastoid muscle. Moreover the intercostal and intercost brachial nerves are cut off by spinal injections. For operations on the hands, he blocks the ulna nerve at the ulnar epicondyle, the median nerve at the ulnar side of the brachial artery and the radial nerve at the ulnar side of the supinator longus muscle, which is put on tension. The dorsal cutaneous nerve is reached by a linear injection between the olecranon and the radial epicondyle. For operations on the palmar surface of the hand, he recommends the interruption of the three chief nerves in the region of the wrist joint by Braun's method.

LAWRY

Schlimpert Concerning Sacral Anesthesia
Jerg G. Soc. & Child, vol. 1, 1918

By Burg Gynae & Obst

After short review of the history of sacral anesthesia (Cathelin, Stock, Laufen and Groe) Schlimpert describes in detail the technique as used at the Freiburg Frauenklinik for low and high external anesthesia. A fairly deep Dürmerachiel is brought about by giving veronal (1 gm. 16 evening before and 3/4 gm. the morning of the operation) and scopolamin-paralophen, some hours before operation. The sacral canal is punctured by introducing a hollow needle into the canal through the hiatus canalis sacralis. First, test fluid (N. ClO 9 per cent) is injected to make sure that the sacral canal has been entered; every injection and no subcutaneous swelling should be observed. By lowering the pelvis it may be determined whether vein of the sacral plexus or the lumbar cavity has been punctured—blood or watery fluid will then issue from the needle.

For anesthetizing warm (35° C) solution of novocain in bicarbonate of sodium (Läwen) is used. Adrenalin is added and to prevent the adrenalin being oxydized in the alkaline fluid, natrium sulfuronum

For low anesthesia (below the symphysis) 0.6 gm. novocain is considered the normal dose for high anesthesia (abdominal operations) 0.7 gm. More or less is given according to weight of patient, age, cachexia, tetanus, quality of Dürmerachiel and probable duration of operation. The doses vary between 0.5 and 5 gm.

The results for low anesthesia are: Duration from three fourths to one and one fourth hours of 3 cases, 1 85 (54.4 per cent) the anesthesia as complete while 3 (4 per cent) were failures. For high anesthesia duration about three fourths hours, of 34 cases, 50 (46.5 per cent) were complete, 10 (56 per cent) were failures.

In the rest, some inhalation-narcosis had to be given, the amount being generally small (0-5 gm. ether).

A collateral action consisting of general pallor due to a fall in blood-pressure, was observed for 3 hours. No after-effects (post-operative vomiting or headache) have been observed.

Belfert Résumé of Literature Concerning Alypin (Succinylcholin Chloride) (Freiburg, Abhandl. d. Ges. Gyn. d. prakt. Med. 9, 3, 1920, Suppl.)

By Zentralbl. f. d. ges. Gynak. Obstet. d. Gynäk.

Alypin is an improvement on other anesthetics, according to many authors because it can be sterilized because when dissolved it is very durable, and finally because of its non-poisonous action (one half as poisonous as cocaine). A solution of 3 per cent of alypin is used as local anesthetic in urethra and bladder. In one case causing tetanus, dyspnoea, nausea, vomiting, diarrhoea, hallucinations and cramps followed an injection of 5 cc. of 10 per cent solution into urethra. In surgery used as infiltration anesthesia with strength of 3-10 per cent Krömer injected 5 to 10 cc. of 10 per cent solution of alypin in the mucosa of the cervix with good results. Alypin is of little value as spinal anesthetic because of headache, backache, nausea, vomiting, collapse, dyspnoea, unconsciousness, and retention of urine which follow its injection into the spinal canal. A 10 per cent saline of alypin applied to painful ulcers gives great relief. Alypin is a valuable anesthetic, for it has so many good characteristics and so few bad ones.

JONES

SURGERY OF THE HEAD AND NECK

HEAD

Toussieux and Glaty Primary Epithelioma of the 5 parotid Glands (Epitheliome primitif de la glande sous-muqueuse) Bull. et mem. Soc. anat. de Par. 9, 5, 1916 By Journal de Chirurgie

A man 50 years old in excellent general health noticed gradual growing tumor in the left submaxillary region. On palpation there was hard,

painful mass the size of pigeon egg which was adherent to the deeper tissues but not to the skin. The lymph glands about it rolled under the fingers. The absence of an lesion in the mouth or throat the diagnosis of primary carcinoma of the submaxillary gland was made.

At operation tumor as found such as adherent to the peritoneum and muscles. Its removal was accompanied by thorough curettage of the

reposition and removal of the tissues and lymph glands involved and of the carotid glands. Three months later the patient returned. The local recurrence involving the maxilla floor of the mouth and the thyroid body. The incision was reopened but the operation was unsuccessful as was treatment with copper and radiotherapy.

Histological examination showed that the gland was almost entirely replaced by atypical carcinoma, part of which was glandular and part contained epithelial pearls. There were no pearls in the involved lymph glands.

The authors think this is primary carcinoma of the gland. The presence of the epithelial pearls is explained by reversion of the cells of the gland to their primitive type. It is that of the cells of the floor of the mouth from which the gland develops.

P. MAMON

Coughlin. Partial Operation for Carcinoma Involving the Jaw. *Internat. M. J.* 9:3, 1935. By Surg. Gynec. & Obst.

This paper represents the best type of contribution to practical jaw surgery. Coughlin takes as his thesis the fact that surgeons are as a rule content to excise a reasonable amount of soft parts that are the seat of cancer but that as soon as bone is involved the operative procedure adopted is usually mutilating.

The outlook for carcinoma of the jaw is bad enough, the best but it is nevertheless not necessary to remove more bone proportionately than soft parts. Of course there are cases demanding the removal of a whole jaw but Coughlin does not feel that it is possible to frame up specific rules for guidance as to when the more and when the less radical operation is to be performed. The results of partial operation for mouth cancer (removal of the growth with fair margin of normal tissue followed by actual cauterization) are better than those following the radical operation (removal of complete segment of or the entire jaw) but this may be due to the fact that the partial procedure is essentially indicated in the early cases. The disadvantages of the radical operation are increased shock, mutilating deformity and loss of function. According to the clinical experiences and observations of Coughlin carcinoma invades but less rapidly than it erodes the soft parts. After all the crux of the situation lies in making a early diagnosis.

If patient over forty has chronic ulcer or about the mouth suspect cancer. Remove all possible sources of irritation such as jagged teeth, bad plates, rough or loose prosthetic. Keep the ulcer clean, and either have the Wassermann test made, or give anti-syphilitic treatment until satisfied that it is not syphilitic. A yellow ulcer that does not show signs of healing under a yellow ointment of iodine and mercury after three weeks treatment, is not syphilitic. Then insist on making a section of the edge of the ulcer. Remove small portion,

securing both healthy and unhealthy tissue and have the same examined microscopically by a competent pathologist.

M. G. BREZIO

Kettlen. Fibroma of the Maxilla. *Proc. Roy. Soc. Med.* 28:1, Otol. Sect. 53. By Surg. Gynec. & Obst.

The patient, a dairyman age 35, came under observation with a large swelling of the mouth. Two years previously an attempt was made to extract what was thought to be the upper right second molar. The tooth was broken and roots remained. A swelling soon formed which was called a abscess. This swelling led to suppuration. At first the swelling increased in size it was incised but no pus was evacuated. When the swelling saw the patient he found a foul septic mouth with a firm elastic tumor involving the tubercosity of the second buccal pad and the whole alveolar ridge on the right side. The patient suffered no pain and showed no glandular enlargement.

After scaling the teeth the right maxilla was removed. The specimen showed a dense growth of the alveolar region with a less dense free growing mass extending into the alveolus which was practically obliterated. Patho-histological section showed dense fibrous growth of connective tissue.

H. A. FORR

J. Hild. Sub-dural Intra-cranial Cyst of Traumatic Origin; Jacksonian Epilepsy; Ameliorative Trepanation. (Kyste intra-cranien sous-dural d'origine traumatique, épilepsie Jacksonienne, trépanation ameliorative). *Bull. et Ann. Soc. de Chir. de Par.* 3:3, 1935, 334. By Journal de Chirurgie.

The author reports a case of serous cyst in the brain of a boy twelve years old. This followed a skull fracture received in infancy. The cyst was located in the Rolandic area and extended down to Broca's region. Following the operation the boy improved, but he had recurrence of the epileptic form attacks, which were relieved by withdrawing 50 cc. of serous fluid through the operative scar.

Auvray working for the author collected seventy nine cases of intra-cranial cysts of traumatic origin. These he divided into intra-cerebral and meningeal cysts, the latter into extra and sub-dural cysts. There were thirty-eight cases of intra-cerebral cysts. Whether single or multiple, large or small, whether containing clear or bloody serum or blood these cysts did not develop rapidly. There is nothing characteristic about their symptomatology. Pathologically those developing rapidly might be due either to transformation of the traumatic hemorrhagic erode or to the formation of real closed cavities in the pia mater or sub-arachnoid spaces due to cicatrized fat which fluid is excreted and from which it can escape. The slow forming cysts are on the other hand, due to a degeneration of the brain substance following trauma or changes in the brain following hemorrhage into the parenchyma.

There are three methods of treating these cysts: (1) simple puncture which is insufficient; (2) loculation

Krause Brain Surgery (Gehirnchirurgie) *Deutscher chir Kong* 93
By Zentralbl f d ges Chir i Grenzgeb.

The results of the operation for cerebral tumors have not been as favorable lately because of the increased number of operations performed. It is, however, indicated in all cases as soon as suspicion of tumor arises. Tumors of the posterior cranial fossa, those of the cerebellum substance and even those of the vault of the fourth ventricle give a fair good prognosis. His permanent results in cerebellum point tumors were especially bad. In forty cases only four were satisfactory. The tumors were always large and involved the pons and medulla rendering the diagnosis very easy. As the diagnosis is relatively easy it is best to treat these cases for operation in the early stages.

Krause operated hypophyseal tumors according to all of the described methods, once according to that of Hirsch. This method requires special rhinological training and offers no advantages to the surgeon. It is to be preferred to Schloffer method as it leaves no disfiguring scars and does not lead to atrophy. He operated seven times according to Schloffer method, but as able to remove the entire tumor only once. If therefore returned to his own method of operating through the forehead. A patient operated upon by this method four and one half years ago for tumor the size of plum has lost all symptoms of acromegaly and the meninges have returned. This radical method should always be employed in case suspicion exists that the anterior lobe or any of the neighboring part of the brain are involved.

The author concludes that meningitis serosa of the cord is clinical entity as several cases have been cured for five years. It also has complete cures of the much rarer serosa meningitis of the brain. The incision into the posterior commissure is borne without danger if made in the median line. The author has made this incision several times to locate an intra medullary disease focus.

VON EISENHARDT in discussion, said the presence of serous meningitis in the brain is not the cause of severe disturbances and that the disease is diagnosed much too often. Several observations have taught him that it is not essential to remove the entire tumor in operating for hypophyseal tumors.

F 777 7721A

Walter The Histological Structure of the Pineal Gland (Über den histologischen Bau der Zirbeldrüse); *Sitzungsber Akademi d naturforsch Gesellsch in Berlin* 93 3 4
By Zentralbl f d ges Chir Grenzgeb.

Histological investigations of the pineal gland with certain gold stain (the details of which are not given) and with the Bielschowsky stain yielded, in contrast to the results obtained with the ordinary staining methods extraordinarily complicated structures. The septa of the pia and vessels are surrounded with numerous small button- and

club-like structures attached to ends of very fine strands, causing a dense network. These fine threads run backwards into thicker threads and finally are lost between the cells of the parenchyma. The author believes they must be nerves and nerve endings, which they stimulate staining. Almost all parenchyma cells have number of these strands the beginnings of which are stained similar to the narrow plasma around the large round nuclei. Alongside these round cells are a few larger cells resembling in part pyramidal cells of the cortex and motor spinal ganglion cells, with abundant plasma, indefinite nuclei and numerous projections. In addition, smaller polymorphous cells with many fine strands are found in the septa, each provided with a club-like end. None of the cells have distinct cytoplasmic cylinder the tigroid substance and the fibrillar structure is missing. The sympathetic character of the cells cannot be discarded without further proof (Cajal made similar observations on rabbits).

It is likely that in every case between 9 and 65 years cells will be found that bear a definite relation to the function of the sympathetic nerves of the pia and choroid plexus, probably being of decisive significance in the formation of the liquor cerebrospinalis.

TOLSON.

Dana and Berkeley The Functions of the Pineal Gland, with Report of Feeding Experiments. *Med Rec* 93 June, 835
By Surg, Chas C. and Obst

What is known at present of the pineal gland comes from the following sources: Experiments on animals, experiments with extracts of the gland, clinical and pathological studies, and consideration of the embryology and phylogeny. The literature of the diseases of the pineal gland gives some evidence that lesions occurring in the young cause peculiar disturbances of nutrition, such as increased growth of adipose tissue, stimulation of the development of the sexual, the somatic, and perhaps the mental functions.

The pineal gland in man has become a glandular organ with secreting cells and probably a few nerve fibers. It tends to undergo deterioration about the seventh or eighth year but up to that time may be supposed to have some function.

The following experiments were carried out with the glands of young bullocks.

The nucleoproteids and entire gland extracts were obtained and injected into the veins to test the effect on the blood pressure.

They were also injected into young animals (rabbit and guinea pigs) for a long time to determine its effect on nutrition.

3. The whole gland was fed to defective and retarded children.

Their provisional conclusions are:

The pineal gland is the vestigium of the special sense organ of vision in invertebrates and certain low vertebrates. In man it has practically lost all the structural characters of a sense organ and has

those of glandular type. It undergoes some involution at birth, but at the seventh year it enlarges.

1. The early period of life is influenced over the development of the glandular system, including the development of the genital organs. The deposit of subcutaneous tissue is general, but the mental progress is retarded.

2. The tract of placental glands of the body is not affected by the disease, but the glands of the body are not affected by the disease.

3. The mental tract of the body is not affected by the disease, but the glands of the body are not affected by the disease.

4. The mental tract of the body is not affected by the disease, but the glands of the body are not affected by the disease.

Hirschmann, F. Pathology and Operability of Tumors of the Pituitary Gland and the Hypophysis and the Hypothalamus. (Zentralblatt für die Gesamte Medizin.)

The patient is a 20-year-old, in whom the pituitary gland and the hypophysis and the hypothalamus are affected.

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According to experiments of Brunner on the cauls of the first, the first is from above the lower flap penetrating the posterior part of the corpus callosum perforation of the corpus callosum. The second method consists in entering the corpus callosum and hemisphere along the tentorium cerebelli. A perforation of the corpus callosum need not result in any practical disturbances. The centers act normally.

NECK

Treisman, T. Tuberculosis of the Lymph Glands of the Neck and Its Relation to the Tonsils and the Lung. (Ullrichs Monatshefte für Geburtshilfe und Gynäkologie.)

The patient is a 20-year-old, in whom the lymph glands of the neck and the tonsils and the lung are affected.

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the lower jaw mid way between the chin and the angle of the jaw but which in the course of the years moved more and more upwards in the direction of the ear. The fistula was continuously discharging. Now and then, homogeneous fluid discharged from the right ear. At the operation which consisted in excision of the entire fistulous tract, it appeared that the fistula opened into the external meatus.

According to the opinion of Klatzsch, the origin of the congenital fistula of the ear is to be traced back to an arrested development or malformation in the region of the first branchial cleft, the fistula taking its origin from an ectopic peristyle in the region of the hyomandibular cleft. Microscopic examination of serial sections confirmed the diagnosis of hyomandibular fistula and macroscopically by Klatzsch.

VALENTIN.

Marine Th. Evolution of the Thyroid Gland.
Bull. Johns H. Univ. 9, 1907, 35.

By Irving, Gynec. & Obst.

The thyroid, while it does not play an essential rôle in our conception of vertebrate life, nevertheless, one of their most constant and characteristic structures—existing in the same anatomical form from the dull cyclostomes throughout all the fishes, amphibians, reptiles, birds and mammals. Marine shows that morphologically the endostyles are fundamentally identical in all. Cyclostomes, fishes, amphibians, reptiles, birds and mammals are the only classes of animals which possess ductless thyroids the follicles of which are structurally identical in all. The most important of the epithelium is concerned in the formation of the ductless follicles in that form which is continuous with the lining epithelium of the duct and pharyngeal grooves. Studies in the embryology of the ductless thyroid have shown that, in fishes, amphibians, reptiles and birds, the thyroid arises solely from a median, single, ventral downgrowth of the pharyngeal ectoderm in or slightly anterior to the first aortic arch. In mammals this symmetry of development was believed to be departed from through the discovery by Stieda of the so-called lateral thyroid anlagen from the fourth or more accurately in man, the rudimentary fifth gill pouch but the work in the embryology in the pathology and the developmental defects of the thyroid during recent years has shown that these lateral bodies which in mammals only become imbedded in the lateral thyroid lobes take no part in the formation of thyroid gland tissue. The solution of the origin of the mammalian thyroid from the single median anlage harmonizes the location and development of the endostyle with the location and development of the ductless thyroid. The thyroid mechanism, therefore, irrespective of the possible phylogenetic relationship to the chordate stem of the several classes of animals concerned appears to have been evolved through a direct line of descent from the tunicates through the amphioxus, fishes, amphibians, reptiles, birds and mammals. The stronger evidence of

the physiology in both the endostyle and the ductless thyroid gives no suggestion of an interrelationship or function. Primarily the thyroid is a part of the alimentary tract and in its endostylar form is a digestive gland of great importance through its probable external secretion. In its ductless form it is only the atrophic remnant of its ancestor which, while it has suffered a corresponding distortion of function, still profoundly influences the animal's nutrition through the effect of its probable internal secretion.

GUYTON E. DENNEY

Ferre and Sary Syphilis of the Thyroid; Its Histological Analogies with Tuberculosis (Syphilis thyroïdienne, ses analogies histologiques avec la tuberculose). *Lyon chir.* 9, 1907, 51.
By Journal de Chirurgie.

The authors report the result of a complete histological examination of the portion of the thyroid removed at operation in the case recently reported (Foncet and Leriche). Microscopically the lobe which was removed contained about dozen crude gummas. They varied in size from a grain of wheat to nut, their yellow color stood out distinctly on the sclerotic glandular parenchyma.

Microscopically the interstitial tissue was greatly infiltrated with round cells (connective tissue and lymphocytic type) with here and there new formed capillaries and slightly involved arterioles. At other points this inflammatory infiltration was replaced by large necrotic bands which crowded out the glandular elements. The thyroid vesicles had completely disappeared at certain points elsewhere they persisted but their cells were swollen and increased in number, and had invaded the lumen, pushing back the colloid substance which finally disappeared. The more extensive gummas appeared like extensive necrotic, amorphous, poorly stained areas in the center of which scarcely any thyroid elements could be recognized. In the younger gummas small islands of necrosis were seen separated by areas of round cell infiltration.

The most interesting point disclosed in these sections was the following: In certain places the inflammatory infiltration was no longer diffuse, but constituted small nodular formations at the center of which the cells had taken on an epithelioid character and which clearly characterized and rather numerous giant cells were present. The origin of these nodules and giant cells was clearly from the interstitial tissues and not from the thyroid vesicles from which they were always separated.

The importance of this observation is stated in the conclusions drawn by the author. That tuberculosis and syphilis of the thyroid may not always be capable of microscopic differentiation and since both may give the clinically a similar picture of ligneous thyroiditis it is quite possible that in the past, cases of so-called tuberculosis of the thyroid have in reality been syphilitic. Differentiation by discovery of the bacillus of Koch or of the spirochete in the section is not practicable since neither are

usually found. The Wassermann reaction and the results of nitrolic treatment must be called upon to settle the question.

CH. LARSEN, JR.

Thyroid. I. Bilateral Reaction or Unilateral Extirpation of the Thyroid: Preferable (Bend-Sigges Ræchel on oder eine die Exstirpation des Kropfes)? *Berl. kl. Wchnsch.* 3:199.

B. Zentrabl. f. d. ges. Chir. Gernagb.

The author in opposition to Kausch, prefers unilateral extirpation of the thyroid because the post-operative course is decidedly milder and shorter. After the bilateral edge-shaped excision by the Mikulicz method generally pleasant symptoms of hyperthyroidism appear such as high temperature and rapid pulse because of an inhibition of the re-

main gland parenchyma. In consequence of ligation of the vessels which can not be accurately limited. The healing of the wound is slower and longer accompanied by discharge of secretion and sutures through the drain. In the unilateral extirpation (even under local anæsthesia) there is much lighter degree of increase in temperature and pulse rate. It explains this as being due to the slighter amount of tracheitis and laryngitis, what is partly by serous infiltration of the region of the wound and difficult expectoration and partly by disturbance of circulation in the mucous membrane of the larynx because of ligation of the superior thyroid. It reserves resection—that is, wedge-shaped incision from both halves of the thyroid—on cases of diffuse bilateral goiter.

BREYER.

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Guletski. Penetrating Combined Thoracic and Abdominal Wounds (Penetrirouche Bruch Bauchwunden). *Dtsch. Arch. für Anat.*

117: 1. 1910. f. d. ges. Chir. Leningrad.

In combination of thoracic and abdominal injuries also strong pulse due to aortic rupture is present in a combined thoracic and abdominal injury. Other symptoms have no characteristic of abdominal injuries are frequent about combined injuries. All though expert treatment can be employed thoracic injuries the abdominal combined injury is treated at least the prognosis becomes unfavorable. The author divides the transpleural wound as it is easier to suture the diaphragm from the pleural and than from the abdominal. In four severe injuries the thorax performed thoraco-laparotomy in the second sample laparotomy. One case as gunshot wound of the heart and spleen. The patient recovered. In the second case peritonitis resulted from stab wound in the abdomen which entered the seventh left intercostal space and perforated the stomach transversely. In spite of the interference the patient died of peritonitis.

K. TRAVERS.

Crookshank and Boyd. Case of Congenital Thoracic Deformity. *Proc. Roy. Soc. Med.* 9:3. Sect. The Children, 5.

By Surg. Gyron & Osse.

The deformity consisted of large depression in the upper part of the chest and the gap in the parietal wall which is apparently due to the absence of the outer portion of the second, third and fourth ribs. The sternum is asymmetrical and the right upper costal cartilages are bent backward, with marked hernia of the right lung. The deformed area is found to be almost exactly covered by the upper rim.

C. G. GARCIA.

Park. The Thyroid and Other Ductless Glands. *Chirald. N. Y.* 3: 20.

By Surg. Grace & Osse.

The thyroid is described more fully than other than the rest of the glands of internal secretion. This gland is found distributed through all except the very latest vertebrates. Ontogenetically it appears to be an offshoot of the same embryonic tail from which the thyroid is produced. Normally only the remnants of the thyroid can be found by the time the child is thirty months old.

The relation of the thyroid to bone development has only recently been emphasized. Whereas the pituitary body undoubtedly has profound influence upon bone development in the more mature years or even in adolescence the thyroid seems to influence greatly the same process in the very early years. The condition which very frequently diagnosed as rachitis is many times a case of disturbed thyroid secretion. Acrodysplasia dwarfing nanism and thalidism must all be ascribed to the thyroid.

Experimental evidence is not lacking in proving the connection between the thyroid and the early development of bone. Klose and his associates found the animals upon which thymectomy had been performed showed tardy development of the epiphyseal cartilages in whole or part would fail to ossify. The bones, moreover, are lacking in mineral elements and are so soft that they can be cut with scissors. Later the flexibility gives way to brittleness and the bones become extremely brittle.

As to exactly how many of the diseases of the bones and joints are due to thyroid disturbances it is impossible to present. It may be said that there is strong evidence that many of them are caused by disturbances of internal secretion. Among these diseases are osteomalacia, rheumatoid arthritis, hypertrophic osteoarthritis, osteitis deformans, and possibly the arthropathies of tabes. J. H. SELLIS.

Wychell: Roentgen Ray Treatment of Thyroid Hypertrophy. *Cleveland M. J.* 9, 1, 21, 34.

By Surg. (Voc.) & Obst.

The author here reports 1 case so treated so successfully and one much improved but still under treatment.

He also discusses status lymphaticus and theories of thyroid asthma and death.

According to the author, involution leading to complete destruction of the thyroid parenchyma begins thirty-three to forty hours after the exposure to X-rays. The consequent lessening of symptoms.

As the incidence of the recurrence after the exposure is a desirable drop in the treatment even before the entire disappearance of symptoms, the severity of symptoms must regulate the number of exposures. A short strong exposure (five to eight minutes) will accomplish the same results and without danger as fifteen to twenty minutes of weak exposure.

Not only does relief in symptoms follow but there is marked improvement in the general condition of the child. H. A. Burr.

TRACHEA AND LUNGS

Broeckaert: Operation for Tracheal Tumors. *Quelques interventions pour tumeurs de la trachée.* *Arch. Belges d'Chir.* 1913, 18.

B. Journal de Chirurgie

In 30 years Broeckaert has operated 11 times on tumors of the trachea. The first case, that of a small child on whom tracheotomy had been performed for croup several weeks after the removal of the canula respiratory difficulty developed and he performed exploratory laryngo-tracheotomy. A large fleshy growth had developed upon the inner margins of the old tracheal wound. After complete ablation he sutured the larynx and trachea and obtained permanent and rapid cure. Histological examination showed the new growth to be simple granularoma. Stenosis by such tubercular granulations is not very rare.

In the second case the stenosis was due to papillomas of the trachea and larynx. Immediate tracheotomy with an extended laryngo-tracheal incision was performed so as to permit of complete removal of the numerous papillomatous vegetations which completely filled the upper portion of the trachea and larynx. The author then did laryngo-tracheotomy by suturing the mucous membrane to the skin on either side, thus allowing him to observe the larynx and the trachea for the appearance of recurrences. Several times it was necessary to remove new tumors and (six months later) he closed the opening permanently.

Broeckaert has had 11 cases of malignant tumors of the trachea, one primary and the other secondary due to an extension of carcinoma of the thyroid. In both cases there was such an extensive infiltration of the trachea that radical operation was impossible. In one the author performed a tracheotomy with partial ablation of the tumor mass. In the other

a tracheotomy was done and followed by the introduction of a long flexible tracheal canula as an emergency measure. Statistics show that the results of operation for malignant tumors of the trachea in general are not encouraging. Only two cases are known where the trachea was successfully resected, a malignant tumor that of Brunst and the more recent one of Schmalzgelow.

The last case was that of a man, 32 years of age, who complained of several attacks of dyspnea occurring at the preceding few weeks. Laryngoscopic examination November 9, 1913 disclosed slight redness of the vocal cords and beneath these a rounded ratheroluminous tumor which appeared to arise from the posterior wall of the trachea. It was pale rose color perfectly smooth and fitted into the lumen of the trachea. A crico-tracheotomy revealed the tumor, it died by a broad base to the posterior tracheal wall and encroached upon the cricoid. It was the size of a large hazelnut. It was removed without difficulty in several portions after which the point of attachment was carefully curetted. The margins of the cricoid and the trachea were permanently united by catgut suture and the larynx closed by means of Muhlert's forceps. The canula was left in place. Post-operative sequelae were normal and after being convinced that all trace of the tumor had disappeared, and that the movement of the vocal cords was normal, the canula removed at the end of the third day. Two months after operation there had been no signs of recurrence. Histological examination of the tumor showed it was a lobulated fibroma. J. Deaver.

Schumacher: The Operative Treatment of Lung Embolism. *Beiträge zur operativen Behandlung der Lungenembolie.* *Deutscher Chir. Kongr.* 1913.

By Zentralbl. f. d. ges. Chir. 1. Sitzungsb.

On the basis of three lung embolism cases operated according to Tredeleburg by Sauerbroch and Schumacher at the Zurich Clinic and several observed fatal cases of lung embolism Schumacher discusses the symptomatology and diagnosis of large pulmonary emboli and the indications and technique of the Tredeleburg operation. He emphasizes the difficulty and even impossibility of differentiating between pulmonary embolism and certain rapidly fatal cases of cardiac origin, especially myocarditis. He differentiates three forms of death in pulmonary embolism: (1) the almost instant death from shock, (2) the very rapidly resulting death of large emboli obstructing both branches of the pulmonary artery, (3) the death occurring many minutes, even hours, after a protracted case of embolism.

So far as operative indications are concerned the author believes that in rapidly progressing cases one's duty lies in attempting interference, as recovery may occur in some one case. In these cases the national relations are also favorable for the extraction of an embolism. In the protracted cases, one is justified in resorting to operative interference when, in spite of stimulation, aggravation of

the conditions occurs. If observed in the cases the appearance of clicking pulmonary ile, which gradually disappeared as the heart weakened. Perhaps this disappearance of the rale is an indication not to delay the operation any longer.

Friedrich: The Effect of Extensive Resection of the Thoracic Wall on Marked Pulmonary Emphysema (Rückwirkung einer umgehenden Brust- und Rippenresektion auf hochgradigen Lungenemphysem). *Deutscher Arzts Kongress*, 1911.
By Zentralblatt für Chirurgie, I. G. G. G.

Friedrich discusses the remarkable retrogression which occurred in a case of marked pulmonary emphysema after an extensive resection of the thoracic wall.

The patient, an Russian coachman, fifty-four years old, suffered from a high grade pulmonary emphysema with but little heart. It was admitted the lack on account of peritoneal adhesions extending from the right second lateral space to the right seventh. The tumor was a large, rounded, lobulated mass. The ray passed below the pulmonary metastases but entered a lobulated bronchial gland. The heart all was covered under local anesthesia and after sufficient pressure and the entire tumor was resected. The result of the operation was a long resection of the third fourth with anastomosis of the area about 20 cm. The tumor had bulged the parietal pleura and a narrow band of adhesions led the movement. At the pulmonary resection of this band several metastases are found in the lung. The lung brought forward and others are found free from metastases. The metastases, as removed, with ligatures. The skin flap as closed tightly and he is as cured out of the thorax. A dressing as fully applied but a transient pneumonia set in in the operated portion of the lung (otherwise there as complete primary union).

During the following week, the improvement in the emphysema manifest itself. Thus, of course, has been one less mechanical hindrance to the full due expansion of the lung. In the case of the extensive defect, which the respiratory and expiratory excursion of the lung could be followed, only an effect as produced such as occurs in Freund's method of resection or division of the ribs permitting greater mobility of the large area of the lung. This improvement in circulation. The entire result could be in harmony with the theory developed by Freund to explain the operative result obtained in emphysema of the thorax.

PHARYNX AND OESOPHAGUS

Liebanitz: Chronic Inflammatory Stenosis of the Cardiac Region of the Oesophagus (Lesions chroniques inflammatoires de la région cardiaque de l'oesophage). *Thèse de doctorat*, Paris, 1911.
By Journal de Chirurgie.

The author holds views on the etiology of the so-called idiopathic spasms of the oesophagus which are

quite at variance with those usually accepted. While certain cases may still be considered idiopathic, the greater number of primary oesophageal spasms have according to the author a very definite etiology.

The first step in the mechanism, he considers to be the formation of an erosion in the cardiac (more exactly diaphragmatic) portion of the oesophagus. Numerous factors may lead to the formation of this erosion, notably alcoholism, excessive use of tobacco, too highly seasoned food, gulping of large pieces of food, oesophageal varices, etc. The erosion once formed leads to a reflex path: oesophageal spasm, which in turn prevents the healing of the erosion, processes entirely anomalous to those observed in anal fissure and, as in this case, the erosion may be so small as easily to escape observation during oesophagoscopy.

Biopsy obtained during oesophagoscopy are cited as yielding anatomical details of these erosions. They are inflammatory lesions of the mucosa and submucosa, easily distinguishable from cancerous processes. The old methods of investigation of these cases, that is, intubation and catheterization, are now supplemented by the X-ray and the oesophagoscope. Radiography may lead to mistaken diagnosis of oesophageal stenosis, else one remembers that in normal subjects the barium may remain stationary for some time in the diaphragmatic region. The oesophagoscope shows the local lesions in the cardiac region. One of three stages may be present: irritation, ulceration, or granulation; sometimes, also, cicatrization may be seen. The course of the affection is very slow; it lasts months or years and affects the general condition of the patient only by the difficulty that it interposes to alimentation. The prognosis is not very serious. When such inflammatory stenosis is in the stage of granulation, it may macroscopically closely resemble a cancerous process. Biopsies obtained through the oesophagoscope are decisive.

Therapeutically Liebanitz advocates gastrostomy, which allows the nourishment of the patient and procures functional rest for the oesophagus; later the various methods of oesophageal dilatation may be employed.

ANNETT

Meyer: The Surgical Treatment of Cancer of the Oesophagus. *Med Rec*, 1911, Volume 553.

By Surg. Gynec. & Obst.

The first question that arises in the mind of every physician is, What results have surgeons to show us to-day? He they as an patient by resection of the oesophagus for carcinoma. The surgeon may rightly turn around and ask, Can the physician give such a patient any hope whatever? The fact is, that the medical treatment the mortality must be 100 per cent. On the other hand, amongst the fifty and more cases of intrathoracic resection two patients have lived 24 and 7 days, and the cause of death in these cases as lung complication. The author considers the subject from a broader point

of view and discusses briefly the division of responsibility between family physician and surgeon in the task of saving the life of patients afflicted with cancer of the esophagus. He contends that the disease is absolutely an operative one and should be turned over to the surgeon as soon as the diagnosis has been made. The reasons for this statement are:

The comparative benignancy of the trouble, locally.

2. The bright outlook after operative treatment in early cases.

3. Up to the present time no surgeon has had a chance to operate on a case under really favorable circumstances.

The author mentions briefly the method of making the diagnosis in cancer of the esophagus, emphasizing the necessity of an early diagnosis, and then discusses the latest improvements in esophagoplasty especially with reference to Jannet's new operation in which a part of the major curvature of the stomach is dissected and formed into a long gut-like tube. It serves simultaneously as gastro-

tomy and inferior esophagoplasty. He believes it best to place the tube subcutaneously. A further point he emphasizes is, that no further efforts should be made to secure air and water-tight the upper stump of the resected esophagus which was formerly left within the thorax. It should, in every instance, be transposed extrathoracically from above downward in the direction of the Jannet tube. If it is long enough, both ends can be united by suture and thereafter the esophagoplasty completed. If too short a skin plasty must bridge the defect.

In conclusion he once more dwells on the fact that patients complaining of difficulty in deglutition must not be treated expectantly. Two successful cases of esophageal resection for carcinoma are cited, the first by Zaaijer who reported a successful case of carcinoma of the lower portion of the esophagus and cardia the second by T. Reik, who succeeded in curing a patient with cancer of the esophagus situated behind the aortic arch. Both cases were operated upon in the early stage, at a time when both pneumogastria could still be dissected off

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Markee An Oblique Transverse Incision for Operations on the Gall Bladder and Bile Ducts (Incision oblique transverse dans les opérations sur la vésicule et les voies biliaires) *Union méd. du Canada, Montreal*, p. 2, 1911, 7.

By Zentgraf, L. d. med. Chir. I. Gressgub.

The author recommends the laparotomy incision on account of its simplicity because it offers good exposure of the field of operation, and because the soft parts are not injured. The incision commences at the right costal arch between the eighth and ninth ribs and runs obliquely to the umbilicus and if necessary can be carried downward in the median line. After cutting through the skin, external oblique and anterior sheath of the rectus, he enters the abdominal cavity at the level of the incision, remaining between the two muscles either with sound or with the fingers and separates them bluntly in vertical direction. The size of the incision in the posterior sheath and peritoneum depends on the amount of room necessary to perform the operation. The incision permits thorough inspection of the liver, gall-bladder and bile passages, pylorus and neighboring parts of the stomach, the head of the pancreas, and the right kidney. *Neurolog.*

Enderlein The Subject of Peritonitis (Gedächtnisrede und Thesen zur Peritonitisfrage) *Beitr. z. Chir.*, p. 2, 1911, 593.

By Zentgraf, L. d. med. Chir. Gressgub.

At the 8th Annual Surgical Congress the consensus of opinion in regard to the therapy of peritonitis was that it is not divisible into wait for the development of chemical symptoms, but to remove rapidly the

source of the peritonitis under a general narcosis. Drainage, especially toward the pouch of Douglas, moderate tamponade and wide-open wound are the essentials. Irrigation should be employed only in diffuse peritonitis complicated by a flooding of the cavity with bowel contents, and then with evacuation. For the after-treatment are advised the exaggerated Fowler position, rectal or intravenous sodium chloride infusions, and camphor. The introduction of sugar and camphorated oil into the peritoneal cavity is of questionable merit. *Horn.*

Whitlocks Two Successful Cases of Operation for Strangulated Inguinal Hernia in Femal Infants, of the Ages of 22 and 17 Days. *Proc. Roy. Soc. Med.* p. 3, v, Sect. Dis. Children, 1911.

By Surg., Gynec. & Obst.

These cases are exceptionally interesting. The points of interest can be summed up as follows:

1. The early ages at which strangulation occurred, and with apparently no definite cause.

The unusual nature of the hernial contents in the one case an ovary and tube as well as small intestine in the other an unduly mobile cecum with large appendix measuring 3½ inches.

3. The successful issue in each case even after the obstruction and symptoms of strangulation had lasted for over three days.

4. The absence of post-operative shock after a general anesthetic and herniotomy and in the younger infant after appendectomy in addition.

Herniotomy for strangulation in such young infants must be exceptional, and successful appendectomy at the age of seventeen days is certainly so.

C. G. GRILLER

After discussion of omental injuries the author dwells upon the traumatic cysts of the omentum. Of the inflammatory diseases, the author mentions the cut suppurative infections first. The diffuse suppurative inflammations predominate in this class of cases. Locally thrombophlebitis and lymphangitis play an important part. The author emphasizes the fact that in perityphlitis propagation of the infection generally occurs in the nodes radiating from the mesenteric and in the psoas forer via the lymph channels of the mesentery. The critical location of all suppurative processes is the abdominal region. When chills indicate continuance of the infection it is a harbinger of appendicitis. The author recommends, does Williams the ligation of the veins. This is begun at the outer border of the omentum, cut through between the mesenteric and ileal, and carefully isolates the arteries before ligating the veins. Chronic inflammations of the mesentery follow prolonged mechanical and hemal irritations, as in cases of belching (chronic mesenteric). Chemical irritations in various locations are due to chyme passing within the gall bladder according to the author's belief. The author differs with others in his opinion that the mesenteric nodes and mesenteric chronic nodes are the origin of the inflammatory process. The nodes and the inflammatory lymphatics of the omentum (so thoroughly described by Bruns) which occur after hernia, may be the cause should be treated as infection of more and chronic course. The author suggests that this condition the term perityphlitis infection perityphlitis. Direct inoculation is the etiology. For in cases that develop an operative exfoliation as sequel to ligations of the omentum, and contact infection if it follows intra-abdominal suppuration. The latter is the result of inflammatory diseases of the mesentery and the site of the suppurative process and sometimes as a transitory nature. The treatment of it more being favorable prognosis should be conservative according to Prutz.

Tuberculosis affecting the central layer of the mesentery is found in the lymph glands, the trunk of the infection being in the intestine. The intestinal mucosa is not always tuberculous in such instances. A simple laparotomy as in peritoneal tuberculosis is recommended as therapeutic attempt by the author. Actinomycosis of the mesentery has not been found, syphilis very rarely but actinomycosis of the omentum as relatively frequent owing to invasions from the intestines. In cases exhibiting mental tuberculosis, there is general, extensive tubercular process affecting other intra-abdominal organs. The real domain of the tuberculosis affecting the omentum, is the tuberculous peritoneum. Prutz classifies torsions of the omentum as those with and those without hernia. The essential importance of these hernia is the structural changes brought about when the omentum is found in the hernial contents. Chronic peritoneal processes also cause such omental alterations. The

mentum becomes lumpy. The author does not agree with Payr and his experimentally proved hamodynamic theory according to which the engorgement of the veins causes the mentum to become twisted. Prutz states that the veins are engorged because they become twisted in common with the omentum. Both observers agree that mechanical influences are operative in these cases, especially the movements of the abdominal parietes. Clinically Prutz believes that in most cases when a right-sided hernia of the groin suddenly becomes irreducible or incarcerated it is a sign of a twisting omental torsion. The *incarceration* in such cases with hernia and the *appendicitis* in the cases of mental torsion without hernia are the most prominent symptoms hence are also most emphasized in the diagnosis.

Aneurisms — the region of the three large arteries leading from the median dorsal mesentery to the alimentary canal (coeliac axis) are very infrequent. Aneurisms in this area would be types of the mycotic embolic aneurysms of Eppinger. These tumors grow spasmodically and generally hemorrhage is their fatal termination. Embolism and thrombosis in this location are discussed and also the operative prognosis. Spengel's theory assuming simultaneous closure of arteries and veins in anemic infarcts as being independent is not in accord with the view of the author. The diagnosis is very difficult, the rapid pulse suddenly appearing as emphasized by Mithras, is also diagnostic of the acute abdominal diseases. Even a previous bloody stool (per haps a very slight hemorrhage occurring on only) may be difficult to establish as of diagnostic importance.

The cysts of the mesentery are classified by Moenier according to the anatomic condition of their walls and according to their genesis and not according to their contents as cysts of lymphatic origin (lymphangioma, chylangioma), hamatocoles whose contents become bloody as a secondary process echinococcus cysts enterocoles, dermoid cysts and cysts of separated sperms of the urogenital tract. The solid tumors of the mesentery Moenier divides into lipomata, fibromata, sarcomata and carcinosarcomata. Cysts are most frequent in the flexural region their constant symptoms being compression of the intestines and of the blood vessels. Therapeutically it is question of manipulation and excision. Sarcomata arise either from subserous connective tissue or from lymph glands carcinosarcomata from the endothelium of the lymph glands and the lymphatics (endothelial carcinoma). Cysts and tumors of the omentum are similar to those of the mesentery. Moenier divides them into cysts of lymphatic and traumatic origin echinococcus cysts and dermoid cysts lipomata, fibromata, sarcomata, and carcinosarcomata. Any neoplastic special information in regard to the surgery of the mesentery and omentum will find the work of Prutz and Moenier a mine of dependable information.

disposing, the primary cause being irritable the colon bacilli has been found in pure culture at the base of chronic ulcers of the stomach. The diagnosis after bismuth meal is made by the skiagraph and fluoroscope. The article contains many good reproductions from the skiagraphs.

Many ulcers persist for years unrecognized by the patient. A few cicatrize completely leaving a scar with a ring around the pylorus. Great chronic gastric ulcers become cancerous, all such cases showing intestinal stasis with distended duodenum.

The author thinks that by an early recognition of gastric and duodenal ulcer the intestinal stasis may cause cancer not only of the stomach but of the ileocecal and gall tract may be avoided and that the greatest help in these cases is the X-ray.

H. A. PERRY.

Friedenwald. On the Frequency of the Transition of Ulcer of the Stomach into Cancer.
Bulletin of the Society of Internal Medicine

By Sigmund Friedenwald.

Much interest has been manifested in recent years regarding the frequency of the development of cancer of the stomach upon the basis of an old ulcer. Various authors differ widely concerning the frequency of transition of ulceration into an adenocarcinoma. Friedenwald states that it occurs in 3 per cent. while Wilson and Blauart place the figures at 7 per cent. Recently Petersen has discussed the subject and while he does not deny the possibility of transformation, he is doubtful as to the frequency of this transition. He offers clinical and pathological evidence to support his view. The author then discusses briefly the work of Kocher, Trendelenburg and Jacobsohn.

Jacobsohn calls attention to the supposition that a large number of chronic gastric ulcers termed cancerous ulcer by the surgeons which are apparently ordinary gastric ulcers, appearing macroscopically as cancers are really not ulcers degenerating into cancers but cancers transformed into typical ulcers. The typical appearance of an ulcer is regularly observed in the cancerous ulcers while on the other hand diffuse cancerous infiltration appeared in the base as far as the serous coat with relatively slight cancerous development in the borders, from which it can be definitely concluded that primary carcinoma with secondary ulceration existed.

The author then reviews one thousand cases which have come under his observation. A history of some previous digestive trouble was obtained in two hundred thirty-five cases, or 35 per cent. In this number there were one hundred ninety who had slight attacks of indigestion for period of five years or more preceding the present gastric disturbance. While twenty-five had slight attacks only during the last five years preceding the present disease. Of the remaining one hundred twenty-three cases, thirty-four had chronic indigestion all of their lives of which twenty-nine had chronic in-

digestion mainly during the last five years preceding the present illness. Seventy-three cases gave a definite history of gastric ulcer. It is therefore evident that in one thousand cases, but twenty-three per cent present a history of previous digestive disturbance, however even in the slightest degree and that but 7.3 per cent give a direct history of ulcer. If therefore all of the former digestive disturbances be considered as due to ulcer the formation of gastric cancer from ulcer could not have taken place in more than 3 per cent. If all of the cases with slight digestive disturbances be disregarded in his series, this percentage is reduced even to 2.3 per cent. From these cases the author comes to the conclusion that while gastric ulcers are at times transformed into malignant growths the change does not take place in more than 3 per cent of the cases and even this proportion is too high.

EDWARD L. COX, M.D.

Simon. Contribution to the Treatment of Perforated Gastric and Duodenal Ulcers. (Beitrag zur Behandlung der perforierten Magens- und Duodenalulcera.) *Berlin. Klin. Wochenschr.*, 1906, 33, 1000.
By Zentralblatt für d. ges. Chir. u. L. Grougeb.

The author deduces from study of fourteen cases the fact as to which are of importance in the outcome of perforated gastric and duodenal ulcers and in this connection discusses the value of jejunostomy as recommended by von Eiselsberg in 1906. In consequence of the rapid onset of peritonitis the perforation of gastric ulcers cannot be distinguished from that of the hollow viscus, the anamnesis, which is only too often typical, must be considered thus in eight of the fourteen cases, probable diagnosis was made while three gave no history whatever of gastric disturbance. The increase of the abdominal pain, the author designates as warning precursor.

If describes a case in which the question of fresh perforation or warning precursor remained open. Laparotomy disclosed an ulcer duodenal, almost perforated with surrounding inflammation and tendency to adhesion. Rectus rigidity was absent in this case whereas it is never absent in an actual perforation. Only direct trauma is of importance. Whether a full stomach plays a rôle is doubtful, as perforations also occur at night. The perforation may produce if the impact is simple irritation to those of diffuse peritonitis. Sometimes the sudden onset of severe pain in the upper abdomen followed by syncope is of value in the diagnosis. A perforated appendix does not pursue such stormy course. ruptured it be differentiated by the history, the viscosity of the blood and the appearance of the patient. In older perforations the presence of peritonitis only can be determined. Since the peritonitis is more right-sided in both duodenal ulcer and appendicitis, the history must be utilized in the differential diagnosis. The ulcer was found on the anterior wall in three cases, the posterior wall in 3 on the pars pylorica, the middle and the cardiac part in 4 each. In two cases there were duodenal ulcers,

The perforations are primarily small but may be larger through the floor of the stomach and peritoneal ulcer. Multiple perforations are not observed in recent cases. Pale content or cloudy serum is found in the abdominal cavity. I observed after 3 hours purulent and those per particles or biliary fluid were not found. The presence of gas point to the stomach as the source. The purpose of the operation is the palliation of the perforation cleaning of the abdominal cavity and increasing the patient's strength and improving his general condition.

Of the operative methods the author employs invagination with several layers of sutures and also a fold of omentum over these. This seems to be the simplest procedure though it is not decided for the decided individual. If invagination obstructs the pylorus, a gastro-jejunostomy may be performed. The advantages of this are the favorable effect on the multiple ulcers immediately into the stomach on intestinal action, and its simplicity. I do not consider the tension of the suture line as a chief factor but this is not so important when the hyperacidity is not so important. Gastric juice is diminished but should be used in ulcer of the pylorus and lesser curvature with stenosis, provided the general condition is good. According to Petén, 1000 of those operated in the first hours are saved and one third of those operated later. The author reports 66% per cent of cures, deducting duodenal ulcers in which the prognosis was poor. Petén reported 5 per cent of cures and Brunner similarly in 1903.

Von Mielecki Gastric Ulcer in the New Born (Atropinwirkung bei Neugeborenen). Berl. Klin. Wochenschr. 9, 3, 4, 504.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk. 1903.

The stomach of a girl infant, who died on the fourth day revealed in its mucosa numerous ulcers varying in size from dot to lentil. Epithelial defects were seen microscopically the submucosa was exposed and infiltrated. The affection was the expression of grave catarrhal inflammation which also caused general icterus.

Newbrier Pylorospasm and Gastric Ulcer (Über Pylorospasmus und Ulcus cotriche). Münch. med. Wochenschr. 9, 3, 1, 760.

By Zentralbl. f. d. ges. Chir. 1903.

In a review of 30 cases operated during the last 5 years, the author has determined that there are cases in which the Handek sign (six hours stomach rest) is not diagnostic of gastric ulcer. The author agrees with von Bergmann that the ulcers of the lesser curvature and those of the anterior and posterior walls are especially liable to induce pylorospasm. If then describes case of pylorospasm in which the symptoms and the operative findings—small calloused ulcer of the lesser curvature and

rigidly stenosed pylorus—led him to a diagnosis of anoma of the pylorus. The specimen is preserved according to Kocher's method. The trace of carcinoma or ulcer. The ulcer of the lesser curvature healed after that and the author concludes that the elimination of the pylorus is not the altered chemism as obtained by pylorostomy produced the cure of the ulcer.

Dauwe Contribution to the Study of Stomach Tuberculosis of the Pylorus (Contribution à l'étude de la tuberculose stomacale du pylor). Arch. de méd. de l'hygiène et de méd. exp. 1903.

By Journal de Chir.

A young man, 8 years of age, ignored his good health up to April, 1903 began at that time to rapidly lose weight and to suffer from periodic chills which quickly became more acute. He complained of feeling of weight after meals and later of vomiting. The vomitus was putrid and abundant. It came on several times a day and was repeated. There was, nevertheless, no loss of appetite. Upon examination there was general adynamia. The lungs were clear. There was slight epigastric tenderness. The end of the stomach was bulging of the abdominal wall visible tumor movable with respiration. Periodic chills were observed.

Radiation. The stomach appeared as a mass lying entirely on the left side. The horizontal pyloric portion had but a minimal capacity and was practically invisible. Second examination, eight hours later showed retention of liquid in the stomach and the presence of distinct contractions.

Gastric juice. Free hydrochloric acid, very little pepsin total chlorides 0.5% per cent no blood fermentation acids. For one month the patient was treated by large doses of hydrochloric acid, repeated gastric lavage and rest in bed. He gained thirteen kilograms in weight, and thought himself cured. Three months later he returned with acute, bloody, and purulent stools. The cachexia persisted and the patient died soon after.

Anatomy. Tuberculous peritonitis perigastritis and tuberculous granulations on the peritoneal surface of the stomach. About the pylorus there is present sort of ring of cartilaginous consistency. There is no histological examination. In spite of this important fact, the author claims his case among those of tuberculous granulations of the stomach, which evolve much like cancer but are more common among young people. J. O'Connor.

Milek Duodenal Ulcer (Klinischer Beitrag zur Kenntnis des Ulcus duodenale). Arch. f. Klin. u. exp. Med. 3, 4, 7, 97.

By Zentralbl. f. d. ges. Chir. 1903.

Thirteen cases are reported, eleven being men between twenty and forty and two women between

fifty and sixty. All were operated on (gastro-enterostomy, pylorostomy) and the diagnosis was confirmed in each case. A very exact analysis was made of the thoracic case histories, as to occupation (stooping position) preceding infections, especially syphilis (Wassermann negative in all cases), disease of the stomach in the family, diet (vegetable or meat), alcoholism, abuse of coffee and tobacco, and trauma (skin to road). Among the most important symptoms as pain, the so-called hunger-pain, appearing three to four hours after taking nutriment and banished (1) by the periodicals (2) by the appearance during the night (3) by growing better or worse nutriment and peculiar positions of the body (4) by decreasing summer (5) and by the presence of pain fulcrum under the right costal arch (6) the level of the fifth thoracic and first lumbar vertebrae. These characteristics varied in different cases. Frequently there was cruetation and melaena (three times blood) seen before the operation of pain (acute bleedings) demonstrated by four times. Examination of stomach contents showed the acid content to be normal five times and increased eight times. The hemoglobin content of the blood in eight cases varied between 85 and 100 per cent in five cases, between 33 and 85 per cent.

Röntgen examination was of special diagnostic value as it showed the ulcer in eleven cases out of thirteen. This examination showed pyloric insufficiency in four cases, pyloric stenosis in three and pathological changes in the duodenum in three. Food residue in the duodenum after seven hours by peristalsis and localized pain on pressure or as noted five times. Leube's treatment for ulcer did not give good results. The operations were performed thus: the patient six to seven months, so ultimate results could be given. However subjective pain decreased and there was an increase in strength and capacity for work. One woman died, seven months after the operation, from ileus, resulting from the formation of fibrous bands at the gastro-enterostomy wound. The ulcer as located in the ascending part of the duodenum in eleven cases in the descending part above Vater's papilla in one. Thus, in all cases it was found above the bile ducts. One case showed dilatation of the horizontal part because of stenosis between the horizontal and descending branches. The author mentions as points in the differential diagnosis between stomach and duodenal ulcer that the pain of duodenal ulcer generally decreases on motion and that the temperature is lower. In conclusion the thirteen case histories are given.

SCHMIEDEN

Schmiedden Duodenal Ulcer (Ulcer duodeni)
Deutsches J. Surg. 1913

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author studied the pathogenesis of duodenal ulcer in Bier's clinic. It is his opinion that study of the findings at operation, together with the clinical observations, lead to the most reliable conclusions.

The constant bluish shadows so frequently observed in the upper part of the duodenum on radiographical examination in duodenal ulcer offer an important hint as to the etiology of the condition. The duodenum should let its contents pass very quickly. The constant presence of old chyme leads to irritation and ulcer formation in places predisposed to it. In the first place the change in form of the stomach resulting from ptosis causes the upper part of the duodenum to bend at an acute angle and leads to retention of its contents. Moreover this bend prevents the entrance of the neutralizing alkaline intestinal juices. Duodenal ulcer thus seems to be indirectly caused by the position of the stomach. There is a second change in the form of the stomach in duodenal ulcer which consists in fixation of the pylorus to the right. The author thinks that this change should not be regarded as a consequence of the duodenal ulcer but as the pre-existing and a compensating cause of it. Heretofore the duodenum remains full for an abnormally long time. It is used by the formation of pericolic and pericholecystic fibrous bands which limit the mobility of the pyloric region. In such cases the duodenum cannot relieve itself by peristaltic movements. When once peptic ulcer has made its appearance it lays its retina content in its depths.

I look upon these changes, heretofore cause and effect, have been interchanged. Analogous to the changes described above are found (frequently in the remainder of the intestinal canal). The author believes that by the careful use of the Röntgen ray and critical observation of operative findings other operations will soon confirm his conclusions, and he calls attention to the fact that digestive hypersecretion, hyperacidity and the atrophic condition of the area around the ulcer — which von Bergmann also concerns — can no longer be regarded merely as symptoms of the disease but that they play a part in its causation.

Allyn Pathologic Data Obtained from Ulcers
Excised from the Anterior Wall of the Duodenum
Ann. Surg. Phila., 1913, 57, 60

By Surg. Gynec. & Obst.

The pathological examination of ulcers excised from the anterior wall of the duodenum reveal few of the characteristics of gastric ulcers. Chronic duodenal ulcers usually occur close to the pylorus and formerly when discovered either at operation or autopsy were believed to be pyloric in origin and were classified with gastric ulcers. A gastric ulcer is punched-out defect in the mucous membrane with sclerosed, grayish white base surrounded by thickened margins of somewhat overhanging mucosa. Ulcers of the anterior wall of the duodenum with obstruction and callus, post-excision may show a defect scarcely larger than a dimple, which resembles a little split in the mucosa. It is sometimes surrounded by an area of thickened congested mucous membrane like a patch set in the duodenum. The mucous membrane of the duodenum above the

common duct is smooth, thin granular and has few folds. It may be this anatomical peculiarity which prevents the development of thick ulcers of the gastric type that are found on the peritoneal surface which gives the thickness necessary for the base of the ulcer. Ulcers of the posterior wall of the duodenum present the same characteristics as those of the stomach, e., clean-cut definitely punched-out, well attached closely to the pancreas and usually completely perforating the duodenum. They are protected posteriorly by callus which forms the base of the ulcer. In such cases, however, anterior contact-ulcer will usually be found just opposite the lesion in the posterior wall. After existing an anterior ulcer, second may occasionally be discovered posteriorly which has been concealed by the pyloric ring, the ulcer on the anterior wall evidently being secondary and due to contact. The excision of posterior ulcers of the duodenum is so difficult as contrasted with gastro-enterostomy that, although patients recover and remain well, no is not encouraged to continue the practice.

In the author's opinion, therefore, the excision of duodenal ulcers should be limited to those occurring on the anterior wall. The pathological findings in these ulcers of the anterior duodenal wall demonstrate just why this type of ulcer probably is overlooked in the average routine examination of the duodenum at autopsy. The findings also explain why the diagnosis of chronic ulcer of the duodenum may not be demonstrated by the X-ray. The X-ray however has been a valuable means of diagnosis in the cases of gastric ulcers and those ulcers of the duodenum accompanied with obstruction, not because of the actual demonstration of the ulcer but by the determination of deformities and perverted muscular function.

Deaver: Acute Perforated Duodenal and Gastric Ulcers. *Ann. Surg. Phila.*, 9, 3, 1909.
By Surg. Gynec. & Obst.

Deaver reports twenty five cases of acute perforation of chronic duodenal and gastric ulcers. Only those cases in which the peritoneal cavity was suddenly brought into free communication with the interior of either viscus through perforative opening in the base of chronic ulcer are considered. In the diagnosis of acute perforation, history of years of suffering, or intermittent indigestion perhaps, with recent recurrence, lasting several weeks and terminating in the present attack, can usually be elicited. Some cases give no such history but after an unusual physical effort, heavy meal, or in entire absence of such predisposing causes the patient has suddenly been taken with most agonizing pain in the pit of the stomach.

The initial pain in duodenal perforation is often more intense in the right of the midline but finally becomes generalised and more severe in right lower quadrant. Shock was present in over 50 per cent of the author's cases in the early stages. Parietal and diaphragmatic contractions with retching and

vomiting cause painful paroxysms of indescribable intensity. The vomitus is slight in quantity and rarely contains blood. If patient is examined within an hour he is usually found in variable degree of shock with legs drawn up abdomen retracted, and exceedingly rigid. Deaver has noted transverse constriction of the abdomen above the umbilicus as if nature were attempting to isolate the inflamed area. Abdominal tenderness is marked and rather generalised but especially marked overlying the ulcer. Liver dullness may be obliterated with the scaphoid abdomen. The most characteristic sign of perforated duodenal or gastric ulcer is the peculiar density of the abdominal walls. Percussible sounds are almost invariably absent. A differential diagnosis between perforative ulcers of the proximal duodenum and the pyloric end of the stomach is usually impossible, except that the former is much more common than the latter.

The author details the history of typical case and follows with another case in which extravasated fluid from perforated ulcer followed the paracolic grooves along ascending colon, giving rise to right lower quadrant peritonitis which closely simulated acute appendicitis.

Immediate laparotomy with complete isolation of the ulcer-bearing area by plastron with posterior gastro-jejunostomy is the rational surgery of chronic ulceration of duodenum. Pelvic drainage and the Murphy-Ochsner post-operative treatment is used in all cases. Six of the author's cases were admitted in moribund condition and not operated. Of the thirteen operated cases, all were subjected to the complete operation with two exceptions and all recovered except one.

R. W. McNEAVE.

Von Haberer: Peptic Ulcers of the Jejunum. *Das Frage des Ulcus pepticum jejuni*. *Dtscher chir. Kongr.*, 1903.
By Zentralbl. f. d. ges. Chir. 1. Gremmsh.

Von Haberer had the opportunity to interfere five times in cases of post-operative peptic ulcer of the jejunum, only two of which had been operated previously by him. One must differentiate the ulcer occurring at the anastomosis-ring from the true post-operative ulcer. Many of the explanations for the occurrence of the former (necrosis along the line of suture of the mucosa, small suture-line abscesses in the mucous membrane-ring, etc.) are insufficient to explain the occurrence of the peptic ulcer of the jejunum. Certainly many secondary changes occurring in the anastomosis-ring are taken wrongly for peptic jejunal ulcers. Here belong many of the secondary contractions of the ring, especially after button anastomoses, or after suture which the opening was made too small for the ensuing muscular hypertrophy of the stomach. Von Haberer during the last year has had occasion to operate three cases in which the pathology consisted in simple contractions of the opening without any trace of recent or old inflammatory processes. If one considers the general chronicity and torpidity

of the post-operative peptic ulcer of the jejunum, one is hardly justified in speaking of cured peptic ulcers when complete negative findings exist at the ring. These facts are really questions of technique, although the possibility of a contraction of the ring, as a result of peptic ulcer of the jejunum, is not denied. In that case, however one will find, if not the fresh ulcer, the remains of one when the anastomosis ring is renewed. In regard to the exciting causes of peptic jejunal ulcers we know nothing definite. The only certain fact is that hyperacidity of the gastric contents is of decided importance.

The good results obtained in the three cases operated upon by the author justify the recommendation of the radical operation in peptic jejunal ulcers in severe cases, although one can hardly hope to remove the disposition to recurrence. Perhaps severing of numerous nerves may reduce the danger of recurrence. To the question of etiology nothing positive can be added from the observations. The author, however, was surprised at the length of time that elapsed before any of the patients sought surgical aid. It is also probable that the well-known vicious circle between ulcer and hyperacidity may also increase the disposition to peptic jejunal ulcer. From this, the logical conclusion would be to resort to early and radical operation for every gastric ulcer. Very essential is the strict internal after treatment of all operated patients.

Cheever: Acute Angulation of the Terminal Ileum as Cause of Intestinal Obstruction in Certain Cases of Acute Appendicitis. *Boston M. & S. J.* 9 2, civilt, 79.
By Surg., Gynec. & Obst.

The author reports three cases in which there was an acute angulation of the terminal portion of the ileum following operations for peritonitis. The patients were all operated as soon as they presented themselves at the City Hospital. In two cases signs of intestinal obstruction appeared in three days, while in the third they appeared on the sixth. All the patients rapidly sank and their condition became serious in a few hours. In the first case (age 7) the wound was explored and ileostomy was performed hastily through the left iliac semilunar. This artificial anus suited the patient through and three weeks later a loop of the terminal ileum with the artificial anus was resected and the bowel repaired by an end to end anastomosis, the patient making satisfactory recovery. In the second case time was wasted endeavoring to overcome the condition by means of conservative methods. A later ileostomy failed to save the patient. In the third case the terminal ileum was found adherent along the tract formerly occupied by the appendix. It was acutely angulated in the pelvis. The adhesions were separated, the ileum freed, and additional drainage of the bowel established by a tube in the proximal limb. The patient left the table exhausted and died in twelve hours. The choice of an exploratory operation was unfortunate.

The mechanism of this complication is apparently clear. The terminal portions of the ileum occupy the pelvis in the majority of cases, and in the presence of the adhesive plastic exudate which accompanies acute appendicitis it becomes fixed in the course of a few days. Probably no definite harm results in the great number of cases, or nothing worse than some degree of ileostasis, but more rarely, owing perhaps to the crowding out of the pelvis of the rest of the ileum, an acute angulation occurs at the lowest fixed point which, with the condensation of the inflammatory adhesions, affords an obstruction to the passage of gas. Then comes dilatation, this in turn results in more kinking and a valvular obstruction which becomes fixed by agglutination of the congested serous surfaces.

From the three cases considered the author comes to the following conclusions. In acute pelvic appendicitis, where the inflamed or gangrenous appendix has been torn from its bed on the lateral pelvic wall, from the brim of the floor, the occurrence of the earliest symptoms of intestinal stasis, especially if appearing after an interval of a few days of normal convalescence, should lead to the assumption that there exists an acute angulation of the terminal ileum at the pelvic floor. After eliminating poorly placed drains as a factor a secondary operation should be performed. If the patient's condition does not justify this, a better than *fortiori* hope is offered by ileostomy. EDWARD L. CORWELL.

Ach: Arterio-mesenteric Ileus (Arterio-mesenteric Ileus) Bow. & Abn. Chir. 10 3, civilt, 7.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Gastro-duodenal or arterio-mesenteric ileus (acute dilatation of the stomach) is caused by the small intestine prolapsing into the pelvis and exerting traction on the mesentery which causes a compression of the duodenum with secondary acute dilatation of the stomach. According to other investigators, the acute dilatation is primary and the obstruction of the duodenum secondary. The author has conducted extensive animal experiments and believes that the acute dilatation of the stomach is caused either as a result of disturbance of the nervous mechanism due to the anesthetic, or mechanically as result of the operation leading to overfilling of the stomach with dilatation. The author advises gastric lavage and the Schnitzler stomach position, by which the ileus can usually be overcome. A posterior gastro-enterostomy is only to be considered in the very severe cases. KNOX.

Fowelin: Anesthesia of the Right Iliac Region for Operation in Chronic Appendicitis (Die Anästhesierung der rechten Darmabtegrube bei der Operation der chronischen Appendicitis). *Zentralbl. f. Chir.* 9 3, 21, 245.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Fowelin operated cases of chronic appendicitis under local anesthesia by the following method:

After anesthetizing the abdominal wall, the needle is carried from the anterior superior spine to and the median line and plunged deeply into the iliac fossa, and then laterally along the peritoneal wall so that the injected fluid is well diffused. The method was tested in fifty-four cases. In five cases, the anesthesia was not sufficient and had to be supplemented by chloroform. The ligation of the mesentery of the appendix as painful in all cases.

HINCKLEY.

Longard: A Contribution to the Treatment of Acute Suppurative Appendicitis: Report of Series of 100 Cases (Beitrag zur Behandlung der akuten eitrigen Appendicitis. Bericht über eine zusammenfassende Serie von 100 Fällen). *Arch f Klin Chir* 9 1, 2.

By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

The above analysis series of 100 cases of acute suppurative appendicitis with perforation and involvement of the peritoneum from the surgical department of Löst Achen hospital. The results prove the advantages of the early operation immediately after a diagnosis is made. A total of 77 operations were performed on the 100 cases, with mortality of 6 per cent. Excluding one pleura empyema operation, all of the operations were performed either for the cure of the peritonitis or for the cure of the abscess.

Following the primary operation 16 deaths occurred (1 of peritonitis, 4 of sepsis, of focus). 16 deaths occurred as result of the secondary operations. The author then reviews the clinical symptoms, diagnosis, therapy and tabulates the cases. In peritonitis Longard prefers the dry wadding of the pus and he has improved his results since he injects about 50 cc of camphorated oil into the peritoneal cavity. Dr. Arns.

Fowler: A Note Upon the Treatment of Diffuse and Spreading Appendicula Peritonitis: Summary of 78 Cases. *Am J Surg* 9, 1914, 80. By Surg., Gynec. & Obst.

In the series of 69 cases already reported 48 deaths occurred making mortality of 69.5 per cent.

Peritoneal lavage was performed in fifty cases with mortality of sixty-six per cent. Intravenous irrigation as not used and they showed a mortality of 78.9 per cent. Postural drainage was instituted in thirty-four cases with 6 deaths, mortality of 50 per cent. Fifteen cases occurred prior to 1900 the year this method of treatment was devised by the late George Ryerson Fowler and fifty-four cases were after 1900. Death occurred in eighteen of the twenty cases which postural drainage was not employed making mortality of 8.8 per cent, or an increase over those treated by postural drainage of 3.8 per cent. The mortality of fifteen cases occurring 1903 and 1904 was 93.3 per cent the mortality of fifty-four cases occurring in the successive years up to 1908 was 6.9 per cent. In four cases enterostomy was performed three died, mortality of 75 per cent.

The author makes the McBurney incision, or modification (the Fowler) and the rectum with about equal frequency, removes the appendix when possible and usually inverts the stump. Peritoneal lavage is not employed. Rubber tube drainage is preferred.

After careful consideration of these cases, the author concludes: (1) It is strongly advised that suspected cases of acute appendicitis be placed and maintained in the Fowler position. Postural drainage if be effectual must be maintained all the time. Early institution of postural drainage is of greater benefit to the patient in preventing septic material from reaching the diaphragmatic peritoneum than in preventing further absorption after this area is once involved. Ambulance cases of appendicitis should be brought to the hospital in the sitting posture. The trunk should be elevated during the operation. The cart which transfers the patient and from the bed should be elevated to the head. (2) Occlusive treatment should be instituted before and after operation and Murphy protodysis should be practiced.

The following table appertaining to the entire series is of interest and shows the mortality during the successive years with different methods of treatment.

	Total	Deaths	Mortality	Total	Deaths	Mortality	Total	Deaths	Mortality	Total	Deaths	Mortality
1903	10	10	100	10	10	100	10	10	100	10	10	100
1904	10	10	100	10	10	100	10	10	100	10	10	100
1905	10	10	100	10	10	100	10	10	100	10	10	100
1906	10	10	100	10	10	100	10	10	100	10	10	100
1907	10	10	100	10	10	100	10	10	100	10	10	100
1908	10	10	100	10	10	100	10	10	100	10	10	100
1909	10	10	100	10	10	100	10	10	100	10	10	100
1910	10	10	100	10	10	100	10	10	100	10	10	100
1911	10	10	100	10	10	100	10	10	100	10	10	100
1912	10	10	100	10	10	100	10	10	100	10	10	100
1913	10	10	100	10	10	100	10	10	100	10	10	100
1914	10	10	100	10	10	100	10	10	100	10	10	100
1915	10	10	100	10	10	100	10	10	100	10	10	100
1916	10	10	100	10	10	100	10	10	100	10	10	100
1917	10	10	100	10	10	100	10	10	100	10	10	100
1918	10	10	100	10	10	100	10	10	100	10	10	100
1919	10	10	100	10	10	100	10	10	100	10	10	100
1920	10	10	100	10	10	100	10	10	100	10	10	100
1921	10	10	100	10	10	100	10	10	100	10	10	100
1922	10	10	100	10	10	100	10	10	100	10	10	100
1923	10	10	100	10	10	100	10	10	100	10	10	100
1924	10	10	100	10	10	100	10	10	100	10	10	100
1925	10	10	100	10	10	100	10	10	100	10	10	100
1926	10	10	100	10	10	100	10	10	100	10	10	100
1927	10	10	100	10	10	100	10	10	100	10	10	100
1928	10	10	100	10	10	100	10	10	100	10	10	100
1929	10	10	100	10	10	100	10	10	100	10	10	100
1930	10	10	100	10	10	100	10	10	100	10	10	100
1931	10	10	100	10	10	100	10	10	100	10	10	100
1932	10	10	100	10	10	100	10	10	100	10	10	100
1933	10	10	100	10	10	100	10	10	100	10	10	100
1934	10	10	100	10	10	100	10	10	100	10	10	100
1935	10	10	100	10	10	100	10	10	100	10	10	100
1936	10	10	100	10	10	100	10	10	100	10	10	100
1937	10	10	100	10	10	100	10	10	100	10	10	100
1938	10	10	100	10	10	100	10	10	100	10	10	100
1939	10	10	100	10	10	100	10	10	100	10	10	100
1940	10	10	100	10	10	100	10	10	100	10	10	100
1941	10	10	100	10	10	100	10	10	100	10	10	100
1942	10	10	100	10	10	100	10	10	100	10	10	100
1943	10	10	100	10	10	100	10	10	100	10	10	100
1944	10	10	100	10	10	100	10	10	100	10	10	100
1945	10	10	100	10	10	100	10	10	100	10	10	100
1946	10	10	100	10	10	100	10	10	100	10	10	100
1947	10	10	100	10	10	100	10	10	100	10	10	100
1948	10	10	100	10	10	100	10	10	100	10	10	100
1949	10	10	100	10	10	100	10	10	100	10	10	100
1950	10	10	100	10	10	100	10	10	100	10	10	100
1951	10	10	100	10	10	100	10	10	100	10	10	100
1952	10	10	100	10	10	100	10	10	100	10	10	100
1953	10	10	100	10	10	100	10	10	100	10	10	100
1954	10	10	100	10	10	100	10	10	100	10	10	100
1955	10	10	100	10	10	100	10	10	100	10	10	100
1956	10	10	100	10	10	100	10	10	100	10	10	100
1957	10	10	100	10	10	100	10	10	100	10	10	100
1958	10	10	100	10	10	100	10	10	100	10	10	100
1959	10	10	100	10	10	100	10	10	100	10	10	100
1960	10	10	100	10	10	100	10	10	100	10	10	100
1961	10	10	100	10	10	100	10	10	100	10	10	100
1962	10	10	100	10	10	100	10	10	100	10	10	100
1963	10	10	100	10	10	100	10	10	100	10	10	100
1964	10	10	100	10	10	100	10	10	100	10	10	100
1965	10	10	100	10	10	100	10	10	100	10	10	100
1966	10	10	100	10	10	100	10	10	100	10	10	100
1967	10	10	100	10	10	100	10	10	100	10	10	100
1968	10	10	100	10	10	100	10	10	100	10	10	100
1969	10	10	100	10	10	100	10	10	100	10	10	100
1970	10	10	100	10	10	100	10	10	100	10	10	100
1971	10	10	100	10	10	100	10	10	100	10	10	100
1972	10	10	100	10	10	100	10	10	100	10	10	100
1973	10	10	100	10	10	100	10	10	100	10	10	100
1974	10	10	100	10	10	100	10	10	100	10	10	100
1975	10	10	100	10	10	100	10	10	100	10	10	100
1976	10	10	100	10	10	100	10	10	100	10	10	100
1977	10	10	100	10	10	100	10	10	100	10	10	100
1978	10	10	100	10	10	100	10	10	100	10	10	100
1979	10	10	100	10	10	100	10	10	100	10	10	100
1980	10	10	100	10	10	100	10	10	100	10	10	100
1981	10	10	100	10	10	100	10	10	100	10	10	100
1982	10	10	100	10	10	100	10	10	100	10	10	100
1983	10	10	100	10	10	100	10	10	100	10	10	100
1984	10	10	100	10	10	100	10	10	100	10	10	100
1985	10	10	100	10	10	100	10	10	100	10	10	100
1986	10	10	100	10	10	100	10	10	100	10	10	100
1987	10	10	100	10	10	100	10	10	100	10	10	100
1988	10	10	100	10	10	100	10	10	100	10	10	100
1989	10	10	100	10	10	100	10	10	100	10	10	100
1990	10	10	100	10	10	100	10	10	100	10	10	100
1991	10	10	100	10	10	100	10	10	100	10	10	100
1992	10	10	100	10	10	100	10	10	100	10	10	100
1993	10	10	100	10	10	100	10	10	100	10	10	100
1994	10	10	100	10	10	100	10	10	100	10	10	100
1995	10	10	100	10	10	100	10	10	100	10	10	100
1996	10	10	100	10	10	100	10	10	100	10	10	100
1997	10	10	100	10	10	100	10	10	100	10	10	100
1998	10	10	100	10	10	100	10	10	100	10	10	100
1999	10	10	100	10	10	100	10	10	100	10	10	100
2000	10	10	100	10	10	100	10	10	100	10	10	100

*Statistics once more, when postural drainage was first advocated.

Arns: Appendicectomy (L Appendicectomy) *J de chir* 9 1, 2, 1913. By Surg., Gynec. & Obst.

Like all fistula established in the intestinal tract, appendicectomy could appear to serve both as a way for the introduction of solutions and as an exit for intestinal contents. As to the latter the author asserts that while not serving in the capacity of an artificial anus, yet, except where the fecal contents are too dense appendicectomy may serve useful means for evacuating both large and small intestine.

The technique of the operation is varied according to the mobility and position of the cecum and appendix. M. Arns describes two methods—the pure, and the modified appendicectomy in which the blood supply of the appendix is cut off through ligation and section of its mesentery. In the pure

appendicostomy, which is preferable when the procedure is desired only for the introduction of solutions, the author insists that the incision be sutured to the parietal wall, using a collar stitch taking in an area about the appendix the size of a silver dollar. The modified appendicostomy is essential in all cases when an opening is desired to evacuate the intestine. This technique has been used even where the appendix was gangrenous (Wilms). The appendix is not opened for 24 to 48 hours, by which time there is no danger of contaminating the abdominal cavity. Appendicostomy has no great advantage over colostomy. It heals spontaneously or after light application of the cauter. It has no disadvantages, for it can be easily converted into a colostomy. The most bit from appendicostomy is practically nil.

Among the many uses of appendicostomy the treatment of colitis is of first importance. No matter what the form, all are benefited, the ulcerative type being most favorably influenced. But appendicostomy is better than colostomy on account of the ease with which the fistula is closed. If the disease be limited to the cecum or sigmoid, it would seem that colostomy in the left iliac region could be the operation of choice, both because of the ease of topical applications and because it affords egress for all fecal matter thus giving complete rest to the diseased parts. It has the no great disadvantage of being difficult to close—often requiring a serious second operation for this purpose. Appendicostomy gives excellent results, even in inflammations of the rectum, and should always be tried before colostomy. Irrigating the bowel through an appendicostomy, a tube should also be inserted into the rectum to prevent over-distension and possible rupture.

In affections of the small intestine, appendicostomy is particularly useful in those cases of enteritis involving the lower part of the ileum. The modified operation should be used with the best results being obtained by retrograde catheterization of the ileo-cecal valve, using a female glass catheter. All manipulations must be very gentle to avoid perforation of the diseased intestine. The author recommends it in cases when, from symptoms of perforation, a laparotomy has been performed. If there is no perforation, the ensuing relief of the tension within the intestine due to the appendicostomy eases the patient and decreases the danger of perforation. Large quantities of normal saline solution can be introduced into the cecum with advantage.

Appendicostomy in occlusions is primarily indicated in cases of peroxymal attacks. In an obscure nature, seen mostly in old people. A laparotomy shows no definite cause for obstruction; appendicostomy frequently relieves the symptoms. In dynamic obstruction, no matter where located, appendicostomy is the operation of choice. If the obstruction or occlusion is due to a new growth of the large intestine, colostomy is the operation of choice, provided the tumor cannot be removed. If

however it is determined that the growth can be later excised, appendicostomy will permit of sufficient temporary drainage.

In invertebrate cases of chronic constipation which have resisted all medicinal treatment, appendicostomy by providing an easy method of introducing oil for lubricating the bowel and liquids for macerating the caked fecal masses, affords marked relief.

Arnand claims definite indications for appendicostomy in all forms of serious peritonitis with paralysis of the bowel. It not only affords a means of egress for the retained gases and toxic fluids, but saline solutions may be easily administered by the drop method. It can be given with the patient in any position the tube is not displaced if the patient is restless, and above all there is no such discomfort as is caused by the rectal administration. It should be employed in all cases where peritonitis is due to a perforation of a viscus in order to relieve the tension on the closing suture.

As complementary to other interventions, in cases of resection of the bowel with anastomosis, appendicostomy has been performed to relieve tension on the sutures. After cases of intussusception in infants, it is recommended as a means of fixation of the cecum and at the same time affording a way to introduce saline solution and heat. In volvulus of the cecum it fixes the cecum and prevents recurrence.

As means of nourishing the patient, nothing can supplant the gastrotomy if an artificial opening is necessary into the digestive tract. But where the obstruction is low down or when it is desired to nourish the patient artificially for a short time only, appendicostomy is infinitely superior to jejunostomy and to rectal feeding.

Finally, appendicostomy has been recommended and used as a means of draining and thus curing the diseased appendix. The author does not sanction this procedure, because chronic appendicitis often causes the conditions for which it is so carefully conserved, namely constipation and colitis. He concludes that this organ so long considered a menace to life and a useless appendage, has been shown to possess properties which entitle it to be rehabilitated as a valuable adjunct to the human economy not to be removed without adequate cause.

ELIAS FISCHER.

Légrand. An Attempt at Surgical Treatment of Intestinal Bilharzias by Evisceration and High Resection of the Ano-Recto-Sigmoidal Membrane (Essai de traitement chirurgical de la bilharziose intestinale par éviscération et résection haute de la membrane ano-recto-sigmoïdale). *Rev. med. F. Egypte* 9:1.

By Journal de Chirurgie.

Bladen and Goebel describe two forms of bilateral rectitis which, however, are presumably but two successive stages of the evolution of the disease. The first is characterized by marked redness, thickening, granular aspect of the mucosa with telangi-

and catarrhal or purulent secretion in the second, there is marked infiltration and development of polyps, the size of a pea, cherry or even of a pear. These polyps are pedunculated, sometimes blind or even ramified. Digital examination detects them in the rectal ampulla, either single or multiple, and, in the latter case, sometimes grouped in large and numerous clusters. The irregular outlines of the thickened sigmoid stuffed with polyp may perhaps be felt through the flaccid and wasted abdominal wall. The consistency of the polyp is soft and brittle; they are very mobile, slip between the fingers easily and bleed readily. Consequently, during this stage of the disease, the stools are very frequent. They are fecal in character but once or twice a day all the others containing only blood and mucus. There may be from 10 to 30 stools a day as in dysentery; hence the name of bilharzial dysentery bestowed upon this condition by Firket.

Sometimes the rectal ampulla is the starting point of simple or branched fistulae which open on the skin of the anal margin, within or without the sphincter on the buttocks, or on the internal aspect of the thighs. The tissues surrounding said fistulae are sclerosed, sometimes even of cartilaginous hardness and the skin assumes warty-like appearance. Internal medication is altogether powerless against this condition. The knife and the sharp spoon are indicated. Wildt advocates the excision of the accessible polyp, after anal dilation and incision of the sphincter. Goebel and Madden recommend scraping the mucosa, or even intestinal resection.

Legend suggests for such cases a new operation which he calls *excision and high resection of the sub-recto-sigmoid mucosa*. On the whole this procedure is derived both from Deleorme's and from Jevons's techniques for rectal prolapse or it may be likened to Whitehead operation for hemorrhoids extended high up. In two cases operated on by him, the author resected 1 and 4 inches of mucous membrane, respectively. However in the first case, the resection proved to be not far-reaching enough, for two unremoved bilharzial polyps were subsequently found in the lowered sigmoid. One must not, therefore, hesitate to remove an extensive area of mucosa—Deleorme's resection of 3 inches for ano-rectal prolapse shows how great a leeway there is in this matter. Post-operative recovery was perfect in both cases of Legend's, but the therapeutic end result remains undecided, as neither patient could be followed.

The author himself sets forth the criticism his operation is open to. It is difficult tedious and entails considerable loss of blood. The post-operative period is painful and patients run the risk of partial but protracted incontinence of the sphincter. Furthermore, there is possibility of tight cicatricial stricture if the stitches cut through and the upper end of the mucosa retracts. Finally even taking for granted that all polyps have been removed, will not the adult worms harbored in the portal vein lay eggs which ultimately will cause the condition to

recur? This is undoubtedly the most serious objection against the method; time alone will tell whether it is justified or not.

J. DENON.

Rydqists Operative Treatment of the Tumors of the Sigmoid Flexure and Rectum (Jäk stöky postoperativt vobes novotvorbe enky i otdylyky).
Prøgl. Chir i glas. 1903, v. viii, 54.
By Zentralk. f. d. ges. Chir u. l. Gesehsh.

The material at the Lennberg clinic consisted in 74 cases, the histories of which are given as the close of the article. Early diagnosis is important, therefore early digital examination is considered very valuable. The rectoscope is to be used cautiously and if possible always under the control of the eye. The excision of plaques of tissue for diagnostic purposes has been discarded, as the nature of the disease was evident in the majority of cases. The fact that the tumor is high up or has spread to the prostate, vagina or bladder is no contraindication, according to author but he does not operate if it involves upper portions of the sacrum. The preparation of the patient is begun one week before the date set for operation and consists of castor-oil and enemata. Opium is given before and after the operation. Electrocoagulation before operation is condemned on account of danger of bowel perforation. If the tumor is located at the junction of the rectum and sigmoid, an artificial anus is made about two weeks before the date set for the final operation. It is made in the mid-line above the umbilicus, the transverse colon being used. The diseased portion is then thoroughly ligated.

The author discards the operation per rectum and favors the abdominal or abdomino-sacral route. He makes skin and bowel flaps en masse out of the transversely divided sacrum which is turned outward. His warning against opening of the bowel before the segment has been completely separated. The peritoneum is opened to remove any involved glands. The superior hemorrhoidal artery is ligated. After resection, the cut end of the bowel is fixed at the anus, retaining, if possible the sphincter function. Tampons are placed in the wound. In suturing the bowel, the author advises careful suture of the mucosa, as hemorrhages are thus avoided. At the Lennberg clinic 86.8 per cent of cases were operated radically. The mortality of the radical operation was 37.9 per cent, while in the palliative method it was 100 per cent.

WILHELM.

Chalmer and Bonnet. Primary Melanotic Tumors of the Rectum (Les tumeurs mélaniques primitives du rectum). *Rev. de chir. Par.* 1912, xlvii, 64, 215.
By Journal de Chirurgie.

Chalmer and Bonnet report a case of melanotic tumor of the rectum, together with conclusions drawn from 44 similar cases reported in the literature. The autopsy showed generalized metastatic tumors in practically all the organs of the body. Rectal melanomas are generally confined to one wall of the anal-rectal canal, usually the posterior and show no

tendency to become annular. They may form multiple tumors which usually become pedunculated. The primary tumor develops in the submucosa, infiltrates the muscularis and pushes forward the mucosa, which frequently becomes ulcerated. Melanotic venous nodules are sometimes observed in the perianal region. The perirectal cellular tissue is sometimes packed with melanotic nodules, but in contra distinction to other cancers, anorectal melanoma seem to have no tendency to invade neighboring organs nor to form adhesions with them; on the other hand, rapid and multiple metastases occur at a distance. Glandular metastases are the rule. Cutaneous nodules are somewhat rare and melanotic metastases may be uncolored.

The authors object to the classification of these tumors as sarcoma on the basis of their cellular form, since this is modified by compression. They consider these tumors as melanotic epitheliomas, their histological studies having led them to believe that the malpighian layer (from the anal cutaneous zone) is the point of origin. These tumors are therefore cutaneous epitheliomas which clinically show themselves as rectal tumors, because of their upward infiltration in the submucosa of the rectum with later secondary ulceration or pedunculation into the rectum.

The clinical symptoms of these tumors are very variable. Their evolution may be absolutely latent. There is also painful form which shows symptoms of obstruction, diarrhea and hemorrhage. Other cases show as the prominent symptom secondary proptosis, adenopathy or simply the presence of a tumor. The examination may reveal submucous or subcutaneous nodules at the anus or a polyp which must be distinguished from the usual hemorrhoids or polyps. These tumors are mobile, often surrounded by satellite nodules and usually early at least, covered by normal mucosa. They are situated low down, are non-annular and have nodular surface. Melanotic cachexia, which closes the picture, may be diagnosed by the presence of pigmented granules in the blood and by the examination of the urine. The total duration of the disease rarely surpasses one year. The only treatment is surgical. General melanosis alone forbids intervention and, even in this case the authors believe that frequently a palliative operation is to be recommended. The authors advise a radical amputation of the rectum, combined with a systematic extirpation of the inguinal glands.

In the cases reported the operative mortality was 1 per cent. The late results were studied in 30 cases. Eight patients are still living, two with no recurrence, three with local recurrence, one with glandular recurrence, two with recurrence and metastases. Twenty-one patients have died, four from local recurrence, seven from recurrence and metastases, seven from metastases without recurrence, and three from unknown causes. Metastases are found, therefore in 55 per cent of the cases and

recurrences in 58 per cent. Recurrence is usually local or glandular. Certain of these recurrences have been operated with prolongation of the period of survival. J. OXNER.

Ach: Transplantation of Fascia for Rectopexy and Nephropexy (Fascientransplantation zum Zweck der Rectopexie und Nephropexie). *Deutscher chir. Kong.* 93.
by Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

In a rectopexy Ach exposes the pouch of Douglas by means of a transverse supra-symphyseal incision with the pelvis elevated and strong traction on the pelvic colon. After incising the peritoneum, he mobilizes the rectum widely downward up to the proximity of the sphincters, and dissects between vagina and rectum. He then removes a strip of fascia lata from the thigh 25 cm. long, 8 cm. wide, and transplants this to fix the rectum and vagina. The flap is split longitudinally, one strip being carried almost circularly around the rectum and fixed to the rectum with a large number of sutures. The other strip is brought down anteriorly between rectum and vagina. With its free edges, it is fixed first to the rectum and then to the upper half of the vagina. To prevent adhesions, the fascial flap is placed extra-peritoneally so that the peritoneum, after the right ureter is pushed back, is undermined through the right ligamentum latum up to the horizontal ramus of the pubis. The fascial flap is now fixed here by series of sutures at Cooper's ligament, after the rectum and vagina have been pulled up as far as possible by strong traction. The free edge is again planted extra-peritoneally in the abdominal wall and fixed to the musculature with sutures.

Ach operated a patient with high-grade rectal and vaginal prolapse nine months ago. The fascial flap healed smoothly and, up to the present time, the patient has had no recurrence, in spite of the extraordinarily wide and weakened pelvic floor.

For purposes of nephropexy, Ach has also used a fascial flap as fixation material. The course of the operation was as follows: The kidney was exposed through a Simons' lumbar incision and by luxation. An incision 7 cm. long was made through the capsula fibrosa in both the anterior and the posterior surfaces. The fibrous capsule was separated by blunt dissection from one incision over the convexity to the other. A flap of fascia lata 30 cm. long and 6 cm. wide was pulled through the two incisions were united, thus the fascial flaps are twice pierced by each individual suture. As a result the kidney is completely enclosed in a fibrous sac with firm anterior and posterior reins well designed for fixation. After reposition of the kidney these reins are fixed to the deep as well as the superficial leaves of the fascia lumbodorsalis.

Up to the present time Ach has operated ten patients. The first operations were done two years ago. The fascial flaps healed well in all cases and the result was successful. None of the kidneys

became mobile. A cure resulted in all except a hysterical person, who admits an improvement, but is not cured.

Dogew Changes in the Digestive Processes after Gastrostomy and after Total Extirpation of the Stomach (Änderungen in den Verdauungsprozessen nach Gastrostomie und Gastrektomie). *Med. u. d. Grenzgeb. d. Med. Chir.* 9, 3, xxvi, 96.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The author reports the results of his studies of the digestive processes in dogs after resection of the pylorus and after total gastrectomy. The chemical analysis of the stomach and bowel contents was made after the temporary isolation method of London. Six dogs were operated according to the method of Kocher (gastrostomy) and according to Billroth II (gastrojejunostomy and colica anterior with anastomosis according to Braun). On two dogs gastric fistulae were made, and on four bowel fistulae 5 cm above the valve of Bauhin. The pyloric ring and the para pyloric of the stomach were entirely resected. Experiments with five per cent grape sugar solution gave constant results — the solution left the stomach much slower after pyloric resection, and it was more retarded after the Billroth operation. Further experiments with meat, amylopectin, fat, bread and milk showed still greater retardation. After extirpating the rhythmic contraction of the pylorus, the stomach contents are propelled much slower, apparently because the reflex mechanism is absent (which acts as transporting elevator or suction apparatus and overcomes the resistance of the bowel much easier). The second and constant phenomenon is the return flow of the transpyloric secretion into the stomach, as described by numerous authors, persisting one and one half years after the operation. The returned bowel secretion serves to split the carbohydrates thoroughly; digestion of albumin occurs in an alkaline medium through the action of pancreatic ferments, and the fats become emulsified, all in an organ normally not adapted for such work. In the stomach of operated dogs, digestive processes take place which normally occur in the duodenum, and upper and middle third of the small intestine. The small intestine accommodates itself to these conditions remarkably correct the processes and completes the digestion, as is shown by the author's experiments.

One dog operated according to Billroth's method developed three peptic jejunal ulcers opposite the anastomosis, and severe catarrh of the intestine. Two other dogs showed atrophic pancreatic cholangitis and the dogs operated on according to Kocher's method showed no such changes. The author therefore prefers the Kocher method. The cure of an ulcer of the stomach is therefore, according to the author dependent on the altered chemistry of the stomach contents. After total gastrectomy the author was able to find but few phenomena. Of the

total food ingested, thirty per cent nitrogen was observed, fifty-eight per cent sugar and forty-five per cent fat. The dog did not lose weight, had good appetite and passed normally formed feces. At autopsy, the duodenum was found markedly distended, its walls thinned, and the epithelium trophic.

Adcock.

LIVER, PANCREAS, AND SPLEEN

Boljarsky Injuries of the Liver According to the Data of the Surgical Department of the Obshchaya City Hospital for Men in St. Petersburg (Die Leberverletzungen nach den Daten der Chirurgischen Abteilung des städtischen Obshchaya-Hospitals für Männer in St. Petersburg). *Russk. Vrach.* 9, 3, xli, 317.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The author reports 99 cases. He divides all cases into subcutaneous or closed and open injuries. These may be subdivided into uncomplicated and those complicated by injuries of other organs.

Among the 99 cases are 18 subcutaneous ruptures of the liver with 3 cures and complicated ruptures, both of which died 6 gunshot injuries with 4 cures, of which 4 were uncomplicated 85 stab and lacerated wounds, with 30 cures, of which 47 were uncomplicated with an entry in 6, and 38 are complicated (thanasitis). The right lobe and its upper surface are most often injured. Sixteen wounds went through the liver in case the wound cut from below upward damaging the gall-bladder. The size of the wound as 0.5-5 cm. in diameter and 8-10 cm. in depth. In 1 case a part of the right lobe the size of an adult fist, as torn off. The complicated injuries involved, besides the liver the stomach () intestine () lung () pancreas () mesentery () spleen () gall-bladder (), pericardium () and kidney (). The liver was injured through the pleura and diaphragm 29 times. In 4 cases the stomach and intestines protruded. Most injuries occurred in persons between the ages of 15 and 30. Forty-six of the 99 cases died (mortality 47 per cent). The percentage of deaths in the various forms of injuries is as follows: subcutaneous rupture of the liver (8.3 per cent), gunshot injuries (55.3 per cent) stab and lacerated wounds (30.3 per cent). Of 47 cases of uncomplicated stab and lacerated wounds of the liver, 6 died and 4 got all (2.6 per cent deaths). The mortality was lowest where cases were operated on in the first 24 hours. After 24 hours the mortality rises to 80 per cent and over. The causes of death in uncomplicated cases were hemorrhage in 7 cases, peritonitis following liver abscess in 1. The treatment aims at arresting the hemorrhage in injuries of the liver. The author prefers tamponing the liver wounds with free flaps of omentum, which acts mechanically and helps coagulate the blood, to suturing and the bloody tamponade. This tamponade was successfully used in 8 cases. With this treatment

the patients remained in the clinic on an average 30 days with a Marry tamponade they remained 60 days.

Jorrs.

Brault and Grégoire Chronic Icterus Due to Retention; Stenosis of the Ductus Choledochus; Cholelithiasis; Cholecystectomy (Ictère chronique par rétention sténose du cholédoque cholelithiasis cholelithectomie) *Bull. et mem Soc. Med. 4. 1197 de Par* 9 3 1913, 835.

By Journal de Chirurgie.

A woman of 45 years had suffered since the age of 33 with pains in the right hypochondrium. In December 9 following particularly painful attack which was accompanied by vomiting and diarrhoea, icterus appeared and persisted. In April, 9 2 the icterus which had become chronic was still intense and the stools were constantly pale. In the four months which had passed there had been, nevertheless, 1 periods of slight remission, during which the jaundice had been somewhat less marked and the stools somewhat darker. In April, there was no longer any pain. The temperature had never risen above normal and the general condition of the patient was excellent.

The patient was operated on the 8th of April, 1913. Kohr's incision. The gall-bladder was found to be fibrous and contracted; the dimensions of 1 cm. It seemed packed with calculi and the region of the cystic duct was masked by adhesions. The cystic duct itself was dissected in its lower portion and as then found to be reduced to a fibrous cord, the lumen being completely obliterated.

While searching for the ductus choledochus serious arterial hemorrhage occurred which seemed to come from the hepatic artery or from some important anomalous branch. A finger was introduced into the foramen of Winslow and anterior pressure was exerted, which produced immediate cessation of the bleeding. The artery was then found to show a small hole which was obliterated by lateral suture with fine silk. There was no further bleeding from this source, and the arterial pulsation above the suture was reassuring that the circulation had not been interrupted.

The ductus choledochus was not dilated but appeared very friable. A No. 1 sound could not be passed lower than the superior pancreatic portion of the duct and only the finest curved sound could be passed into the intestine. No calculus was discovered by this maneuver. The head of the pancreas was not indurated and showed no appreciable signs of inflammation. Grégoire considered that there was present double stenosis of the biliary ducts that is, complete obliteration of the cystic duct and partial stenosis involving the whole ductus choledochus, but most marked in its lower portion.

The ductus choledochus was divided down as low as possible and the superior portion implanted on the upper surface of the first portion of the duodenum. Two layers of sutures were used, the first complete

and the second superficial. The infra-hepatic compartment was packed.

The post-operative course was simple. At the end of four weeks all trace of icterus had disappeared and the wound was closed in six weeks. The patient, when seen one year later was in perfect health yet the conjunctivae still had a slightly icteric tinge. Brault and Grégoire state that eleven similar cases have been previously published in France of surgical treatment of sclero-cicatrical stenosis of the chief biliary duct.

MADRIE CHAVASSU

Friedrich Pancreatic Affections and Rare Affections of the Duodenum and Their Value for the Differential Diagnosis of Duodenal Ulcer (Pancreatische Affektionen und Seltene Affektionen des Duodenums in ihrer Bedeutung für die Differentialdiagnose des Ulcus duodeni) *Deutscher Chir. Kongr.* 913. By Zentralbl. f. d. ges. Chir. u. L. Grenzgeb.

The author discusses pancreatic affections (usually large stones, pancreatitis) and rare affections of the duodenum (carcinoma, polyp, diverticula) in regard to their significance in the differential diagnosis of duodenal ulcers. He bases his conclusion on sixteen of his cases. (Among no hundred and thirty-three stomach and duodenal operations, there were only five of duodenal ulcer and 2 for cancer duodeni.) In the case histories of duodenal ulcer a long period of illness, generally termed stomach trouble, always precedes. Vomiting occurred frequently, nocturnal pain regularly and now and then also self-observed emaciation. Symptoms of stenosis and hematemesia are found especially in duodenal cancer blood in the stool occurs also in duodenal ulcer. Hunger pain was only occasionally observed in ulcer duodenal flatulence was more frequently found in associated or isolated affections of the pancreas (pancreatitis, stone in pancreas, pancreatic dermoid).

In six out of fourteen cases of ulcer and carcinoma of the duodenum, the pancreas was also involved, and three times in cases of ulcer. The author gives the details of all his findings. In two of the six cases of carcinoma of the duodenum, pressure upon the common and pancreatic ducts set in, causing melano-icterus and necrosis of the pancreas. In addition, the author reports two cases in which a large diverticulum of the duodenum containing a pancreatic stone (3.9 x 3 cm.) caused fatal complications. These diverticula were pressing against the common duct opening.

Nordmann Experimental and Clinical Relations between Acute Necrosis of the Pancreas and Cholecystitis on the One Hand and Cholelithiasis on the Other (Experimentelle und klinische Zusammenhänge zwischen akuter Pankreasnekrose und Cholelithiasis bzw. Cholecystitis) *Deutscher Chir. Kongr.* 913.

By Zentralbl. f. d. ges. Chir. u. L. Grenzgeb.

Nordmann points to the fact that in 40 per cent of all cases, acute necrosis of the pancreas is associated with either cholecystitis or cholelithiasis. In the

experiments heretofore conducted to explain these relations infected bile as injected into the ductus pancreaticus. The positive results of pancreatic necrosis obtained in this manner were according to the author caused by the fact that the very fine branches are probably ruptured and the pancreatic secretion was pressed into the pancreatic tissue. The results thus obtained, therefore do not perfectly parallel pathological conditions as they occur in man. In his experiment on thirty dogs he closed up the papilla with a silk oesophagus suture and injected bacterial mixtures into the gall-bladder. It was possible, in this manner using careful technique and not handling the pancreas, to produce typical acute pancreatic necrosis associated with hemorrhage and extensive necrosis of fatty tissue which is macro- and microscopically analogous to that which occurs in man. If only the upper papilla is ligated and the lower duct remains unobstructed, no changes occurred in the pancreas. Split of infection of the bile ducts. The results were likewise negative if both the papillae and the common duct were ligated alongside of the pancreas and infectious material then introduced into the gall-bladder. Nordmann is of the opinion that these experiments pancreatic necrosis produced by three factors: (1) by the simultaneous exclusion of all pancreatic juice and bile from the duodenum which must be complete; (2) by the presence of infectious material in the gall-bladder; (3) by the anatomical tract seen by the course of the ductus choledochus and its pancreaticum in the dog, which occasionally resembles the anatomical relations found in man. Both ducts empty into the upper papilla in the duodenum and frequently form a small ampulla by their union above the papilla so that in some of the latter bile can enter the ductus pancreaticus. The clinical observations of Nordmann completely correspond with these experimental results.

He had the opportunity to operate on eight cases of severe acute pancreas necrosis. In the first four cases the pancreas was debrided and drained from all sides, either through the ligamentum gastrocolicum or through the lesser omentum. This procedure followed by abdominal lavage. All died in collapse shortly after the operation. In the next three cases, the gall-bladder was drained in one and stumped in two. In these three cases, drainage of the bile ducts was done in addition to decompensation, drainage and resorption of the pancreas. All recovered. The eighth case was not operated on on account of collapse and a few days later large left-sided subphrenic abscess was opened. One patient had very severe gall-stone colic and slight icterus preceding the attack recovered. A topey of the operation revealed the presence of gall-stones in all cases. Pancreatic secretion was discharged through the common bile-duct drain in all cases in which the gall-bladder was opened. From this the author concludes, it is certain that both ducts unite some distance above the papilla.

12. In view of these chemical experiences, confirmed by experimental evidence, the author advises, wherever possible to drain the gall-bladder and the common bile-duct in every case of acute pancreatic necrosis. The gall-bladder should be extirpated when the patient's condition permits it. If it is easily accessible and marked changes have taken place.

Carwardine and Short: The Surgical Significance of the Accessory Pancreas. *Ann. Surg. Phila.*, 1913, 55. By Surg. Cyren. & Obst.

The frequency and position of an accessory pancreas with the conditions in which it may give rise to surgical affections are discussed by the authors. Two case histories are cited. In all only 30 cases of accessory pancreas are on record.

The accessory pancreas is small, rounded nodule, which may be large as Albert, situated somewhere in the wall of the alimentary canal, though in one case it was found in the abdominal wall. The common situations are: (1) in the wall of the stomach; (2) in the wall of the duodenum; (3) in the first eight inches of the jejunum; (4) in lower jejunum or ileum. Histologically the accessory pancreas shows typical pancreatic structure and well defined ducts.

The accessory pancreas may give rise to trouble in four ways: (1) it may produce mechanical alterations of the walls of the alimentary tract. Several such cases have been recorded. It is liable to acute pancreatitis. The authors give the history of their own cases coming under this class. (2) It may develop chronic interstitial pancreatitis. (3) It may complicate the diagnosis of the cause of abdominal symptoms. R. W. McNaughton.

Fowler: Cysts of the Spleen. *Ann. Surg. Phila.*, 1913, 55. By Surg. Cyren. & Obst.

Fowler's article is very comprehensive and dealing with pathological and surgical study of cysts of the spleen. He maintains that distinction must be made between (1) hematomas; (2) cysts arising from the disintegration of splenic tissue, and (3) granule cysts. The latter be divided into dermoid, parasitic, and non-parasitic cysts.

Cysts were found by him to be slightly more common in women between the ages of 30 to 50 years. Malaria and syphilis seem to exert an influence. A rather concise classification according to the origin of the cysts is offered by the author as follows:

1. Traumatic cysts (hematomas, large unilocular cysts secondary serous cysts).

2. Infiltration cysts (traumatic or inflammatory infiltration of peritoneum). Small multiple—superficial and deep.

3. Dilatation cyst (ectasia of splenic sinus).

4. Disintegration cysts (arising from arterial degeneration and occlusion or other arterial occlusion, as from emboli, and resulting in infarction and necrosis of parenchyma).

5. Neoplastic types (hemangiomas and lymphangiomas).

6. Degeneration cysts (arising from secondary changes in γ)

I forty-three cases in this series the contents were stated to be hemorrhagic. Seventeen were subcapsular hematomata which are usually large, single, and unilocular. Twenty-two were serous cysts eight of which were small, superficial, and multiple. These occur most commonly on anterior border of spleen, seldom upon the posterior border or convex surface, and rarely upon concave surface. Twelve were lymphatic cysts or lymphangiomas.

Clinically the most frequently recognized cyst is the large unilocular variety of the hemorrhagic or serous type containing from one to ten litres. Cysts give no symptoms as result of involvement of splenic tissue *per se*. Large cysts give pressure symptoms and in some cases symptoms arise from adhesions formed about the spleen. Pain of a heavy dragging type, in the left hypochondriac or epigastric region is the most predominant symptom. Gastro-intestinal and respiratory symptoms may result from pressure and be quite marked. The tumor mass is usually located to the left of the umbilicus. Percussion reveals a mass continuous with splenic dullness which may be movable or fixed, smooth, irregular and of doughy or elastic consistency. Fluctuation is not always present. Friction from firm may be present over splenic area. Ascites is usually absent except in few growths.

The diagnosis is rarely made clinically. A history of trauma, the rapidity of growth, location of mass, and character of pain are most important desiderata. The condition must be differentiated from other splenic enlargements and cysts of other abdominal contents.

Cysts have been treated surgically by (1) puncture, (2) incision and drainage (3) excision, and by (4) splenectomy. Puncture is a discarded procedure. Incision and drainage as one or two step procedure has been recorded in fourteen cases. Results were not stated in five cases, seven recovered, and two died. Excision of cyst was practiced six times. Four recovered, one died, and the result was unstated in one.

Fowler has been able to collect twenty-seven cases of splenectomy for cysts. The result was unstated in two cases, one died, and twenty-four recovered.

R. W. McNEAL

MISCELLANEOUS

Corner and Cantley. Diagnosis of Acute Abdominal Conditions of Children. *Practitioner* Lond., 9 3, 22, 708. By Surg. Gynec. & Obst.

Corner feels that it is largely the work of the practitioner to diagnose the condition. The work of the surgeon is taken up usually in confirming the opinion of the practitioner. He gives a table comparing the frequency of acute abdominal conditions in children and in adults. The table is produced from 206 cases in children compared with three times as many adults all from the same hospital.

	Children		Adults	
	Per cent	Per cent	Per cent	Per cent
Acute condition of the appendix	44	54		
Intestinal obstruction (not including Intussusceptions)	3	23		
Intussusceptions	47			
Perforations of the alimentary tract		9		
Gynecological conditions				
Peritonitis of other origins	3	5		
Other conditions	5	3		

This table shows the great preponderance of intussusception and appendicitis among the acute abdominal diseases of childhood. Another point of a great deal of importance is that peritonitis of doubtful origin is of more frequent occurrence in children than in adults. Given acute abdominal conditions and a child under 4 years of age, intussusception is most likely to be the cause while over 4 years appendicitis is the most frequent condition encountered. In children under 4, appendicitis is present in only 8 per cent, while over 4, intussusception is present in only 5 per cent.

Corner has found the presence of enlarged lymphatic glands in the mesentery to be very frequent. He regards them as tuberculous, caused by the bovine type of bacillus. One should not be too hasty in advising operation on children, and rectal examination should never be omitted. C. G. G. UZZA.

Jacobus. Laparo- and Thoracoscopy (Über Laparo- und Thorakoskopie). *Brill. Mon. d. Naturh.*, 9 3, 22.

By Zentralbl. f. d. ges. Chir. I. Grunewald

The author has extended the method of cystoscopy of the bladder to the peritoneal and pleural cavities. Laparoscopy is performed with a Nitze cystoscope No. 1 together with suitable trocar. In the operation distinction is made between cases with and without ascites. In the former the fluid must be drained off with a trocar. Filtered or unfiltered air is blown into the cavity until the patient complains, the cystoscope introduced through the trocar and the abdominal cavity inspected. The parietal peritoneum is very sensitive to the touch of the lamp of the cystoscope. In patients without ascites, the direct introduction of coarse trocar is not possible because of the danger of injury to the intestine. The author finds his way with dull puncture needle. The space in the abdominal cavity in patients without ascites is often very small, so that a comprehensive picture of the liver or organs cannot be obtained. In cases without ascites, the author advises against the use of the method owing to injuries to the intestines. Laparoscopy is restricted to examination of superficially placed parts. Therefore this method is of use only in diseases of the liver, peritoneum, and conditions with ascites. The effect of therapy can also be determined to a certain degree. The technique in large corpulent patients is difficult.

The author examined 60 cases by laparoscopy for diagnosis. The patients presented the following conditions: Cirrhosis of the liver in fourteen, diseases of the liver with picture of Pick's disease in

eight lier lues i three congestion of the liver in four tuberculous peritonitis in six, abdominal tumors in twenty four and ten cases of minor interest. The changes in cases of cirrhosis of the liver offer no diagnostic difficulties. On the other hand the changes in the peritoneum are not very easily determined. Gray red or fleshy red color of the lier must be considered. Diagnosis of Pick disease can be made by laparoscopy with a more or less degree of certainty. Li lues of the lier the method proved of practical use one sees how it is not clear whether the enlargement of the lier is due to alcohol or luetic infection. The resection of the lobes indicated lues of the liver. The status of the liver the method shows that cirrhosis of the lier is not present judging by the superficial changes. In the six cases of tuberculous of the peritoneum the tuberculous nodules are plainly seen by laparoscopy. A lues of the stent of the lier tuberculous also obtained. A malignant tumor of the abdomen there is no doubt of the findings. Metastatic growths on the intestines liver and peritoneum are easily recognized. It is more difficult to recognize them the omentum especially when it is very fat. In cases such it is not possible to decide macroscopically if carcinomatous, tuberculous or luetic changes are present one cannot expect to do so by laparoscopy.

In thoracoscopy the thorax opens the same apparatus as laparoscopy. The skin and pleura must be thoroughly numbed beforehand, so that the thoracoscope may be moved without hindrance in all directions. An pleural exudate is drawn off and replaced by air. Too high an air pressure in the thorax space should be avoided because of the danger of emphysema of the lungs after the completion of thoracoscopy. The point of introduction for the introduction of the trocar is the sixth or seventh intercostal space somewhat median to the anterior axillary line. A certain disinfection is necessary the best point is the line between the sixth and the seventh intercostal space. On directing the thoracoscope parallel one sees almost the entire upper lobe this is especially possible in cases of complete pneumothorax. On examining the parietal wall, distinct difference is seen between the ribs and the

intercostal spaces. The patient is placed preferably on the sound side with a pillow under the chest. If all of the exudate is not removed, the author introduces a thin catheter alongside the trocar to which he attaches a Potain apparatus to suck it out. In thoracoscopy of the lower part of the thorax, care must be taken not to injure the diaphragm on introducing the stilet of the trocar.

He examined seventy-one cases by thoracoscopy. The following questions seemed to him of particular importance: Is it possible to draw conclusions on the nature of lesion from the changes seen by thoracoscopy? Is it possible to distinguish between tuberculous pleurisy and one of any other etiology? In the seven cases in which a tuberculous pleurisy shown by other methods (guinea pig injection, X-rays) there was an intense reddening and swelling of the serosa and the difference between the ribs and the intercostal spaces was obliterated. Whether tuberculous nodules could be seen depended upon the kind and the extent of the fibrin formation. However the author did not discover marked differences between the different kinds of pleurisy, since the changes which were seen in tuberculous pleurisy are also found in non-tuberculous diseases of the pleura. In serous or sero-haemorrhagic pleuritis the following was found. The tuberculous forms showed intense reddening of the surface of the pleura. The loss of the difference between the ribs and the intercostal spaces and the formation of layers of fibrin. In acute cases gray fibrin nodules are often seen which can be regarded as tubercles. The more marked the fibrin covering becomes, the more difficult it is to recognize the nodules. Idiopathic pleuritis also showed the same appearance in general. Nodules are also present which are very much like the tuberculous nodules. In non-tuberculous pleuritis there is hyperemia of the surface of the pleura. The difference between the ribs and the intercostal spaces remains. Fibrin formation is usually slight and nodules are not present. In chronic pleuritis the principle point of interest is the question of differentiation between tumor metastasis and chronic inflammatory pleuritis. The author did not find characteristic changes for tuberculous in cases of emphysema. Kous

SURGERY OF THE EXTREMITIES

DISEASES OF BONES, JOINTS, MUSCLES, ETC. GENERAL CONDITIONS COMMONLY FOUND IN THE EXTREMITIES

Durand Experimental Contributions to the Pathogenesis of Acute Hematogenous Osteomyelitis (Experimentelle Beiträge zur Pathogenese der akuten hämatogenen Osteomyelitis). Deutsche Zeitschrift für Chirurgie, 1913, 100, 6.
By Zentralblatt für Chirurgie I. Grosseberg

Levy is the first experimenter who successfully produced in rabbits, diseased conditions correspond-

ing to localization and anatomical and clinical symptoms with those of acute suppurative osteomyelitis in man, with any degree of regularity. The earlier bouillon cultures of staphylococcus aureus and albus are injected intravenously or intra-arterially for this purpose. The teachings of Kocher, Rodet, and others claiming hematogenous origin of this disease are thus placed on firm basis. His further attempts at determining the blood vessel participation in this process in young bones (these experiments corroborated, and are elaborations of those of Langer) induced Levy to

explain the first occurrence of hematogenous infections of the bones as follows:

The staphylococci that by their biological characteristics are most inclined to grow in clusters, become walled off in the minutest endarteries of an osteoblastic zone where they multiply and form the first small abscesses. Metastatic abscesses caused by embolic lodgment of separated groups of staphylococci are responsible for some of the multiple foci. The origin of osteomyelitis by actual embolism is very uncommon. Dumont, encouraged by Tvel, studied the theoretically constructed principles of Lexer by microscopic examinations of serial cases as well as by rigid experiments. His experimental examinations established the very important fact that only those kinds of staphylococci are virulent in rabbits that are hemolytic when brought into contact with blood. The specific *B. citreus* osteomyelitis Hencke is not accepted, as it makes no difference here that staphylococci are obtained — either from acute pustules, furuncles, or other infections — no whether they are white or yellow. The thorax as invariably able, by means of the hemolytic staphylococci and according to their quantity and virulence to produce any cases of purulent hematogenous osteomyelitis. These cases presented all the variations from the acute foodrovan pyemic form terminating in death in 4 hours without the development of any osteal foci, to the cases progressing very mildly in which the animals remained alive and there appeared all the symptoms of chronic osteomyelitis with sequestration.

For macroscopic examination the technique of which is given in detail, the femora of ten animals are utilized. These were killed by injections into the veins of the ears at different intervals, of cultures of diminished virulence. In all cases there were multiple foci in seven of twenty cases, the foci were in the epiphysis and showed no connection with other parts, hence the assumption of anatomical difficulties in the way of spreading of the processes from the diaphysis to the epiphysis through the cartilaginous structures, was confirmed. In the first 2-4 hours after the injection, the cocci were found in the blood only, after 6 hours, principally in the smallest vessels of the bones. After 5 hours, the vessel walls were broken down and the organisms were found clustered in the adjacent tissues. After 24 hours the first circulatory and nutritive disturbances were noticed. After that, small-celled infiltrations formed around the clusters of cocci and degenerated into milary abscesses. The liberations of emboli, as accepted by Lexer were not found. Lexer's hypotheses were otherwise strengthened and supported by the author's experiments. *Servaz.*

Morison. Injuries to the Semilunar Cartilages of the Knee-Joint. *Ch. J.*, 9, 2, 211, 1.

By Surg. Gynec. & Obst.

The author believes the most favorable position of the limb to allow of injury to the semilunar cartilages

is into flexion of the knee accompanied by a twist in the adducted position. It may occur however at the end of forced extension.

Rupture of the cartilage may take place without the severe pain we are accustomed to expect. The pain is not due to the fracture but to the displacement of the fragments between the bones which causes a stretching of the ligaments and a locking of the joint.

Locking is rare except in extension, yet it may occur during flexion or in both positions, depending upon the location and extent of the rupture. A fracture with displacement of the fragment anterior is apt to produce locking with extension, one with displacement posterior will produce locking in the flexed position while a pedunculated fragment long enough to reach both the anterior and posterior parts of the joint may produce locking which occurs during flexion or extension or both. Swelling of the joint which often occurs within few hours after the injury is probably due to traumatic synovitis.

There is often a tender spot over the anterior and lower portion of the joint and more or less wasting of the muscles. Recurrence of the condition from time to time with intervals which are free from any disturbance whatever, is of very great diagnostic importance.

Union of the ruptured cartilages may be facilitated by placing the limb in effective splints for six to eight weeks but after recurrence the proper course is removal of all fragments through good exposure of the joint.

The operation is one of the most successful in surgery. Failure rarely occurs except in those cases where some fragment has been overlooked.

ROBERT B. CORNELL

Hartung. Contribution on Hysterical Contractures after Accidents (Beitrag zur Lehre der hysterischen Contracturen nach Unfall). *Arch. f. Orthop., Mechanotherapie u. Unfallchir. Wiesb.*, 9, 3, 211, 14.

By Zentralbl. f. d. ges. Chir. i. Grenzgeb.

The author gives a detailed account of a contracture of the shoulder joint after severe injury to the elbow joint. The author's view coincides with that of Trappo that a hysterical contracture is similar to organic disease develops along definite rules, that the primary physiologic fixation of the joint in the position which gave least pain became permanent and pathological under the influence of the hysterical factor. In contradistinction to the healthy person in whom normal condition gives sets in after healing of the injury and cessation of the pain the hysterical patient due to lowered will power, is unable to overcome the sensory irritation and stimulus resulting from the fixation of the joint and its neighboring muscles with the result that the primary physiologic reflex contracture develops into permanent hysterical contracture.

CORNELL



Fig. 1. (Longitudinal.) Note distribution of arteries.
Fig. 2. Connective tissue space distended with wax under pressure. Dotted line where incision could extend.
Fig. 3. Line of incision one half inch above base.

Dorrance Treatment of Felons with Reference to the Pathological Anatomy and Location of Incisions. *J Am Med Ass* 9 2, 12, 1416.

By Sarg. Gyroc. & Obst.

He defines felon as an inflammation of connective tissue space which is situated on the pulmar surface of the last phalanx. A space was demonstrated by several dissections of felons and by injecting the space with wax as shown in the cross sections. (Figs. 2 and 3) The epiphysis of the distal phalanx is supplied by a branch from the digital artery before it enters the space whereas the diaphysis is supplied by a branch from the distal artery after it enters the space thus explaining why the epiphysis lives and the diaphysis frequently becomes necrotic.

In felons as in any other connective tissue space such as sub-aponeurotic infection of the scalp or osteomyelitis of the long bone, free and quick drainage is essential. He divides against longitudinal incision over the pad of the finger as it does not allow free drainage and has tendency to close up and requires frequent packing. Kanavel method of two lateral incisions is superior to the longitudinal incision but does not give the desired quick and free drainage and requires frequent packing. The incision he advises (Fig. 3) starts at the level of the base of the nail on one side and extends in the line of the skin furrows over the tip of the finger to the opposite side to point on level with the beginning of the incision, thus making a flap of the tip of the finger. A piece of rubber tissue is placed in the



Fig. 4. (Dorrance) Wound after incision. Method of rapidly introducing rubber tissue.

uppermost angle of the wound as shown in Fig. 4. The wound is then dressed with salt solution. The dressings are kept moist and changed every day or so, no packing being required. On about the third day the rubber tissue will come away and the wound will gradually close. For the first few days the wound will appear to have been larger than was necessary but the final results will quickly dispel any such idea.

FRACTURES AND DISLOCATIONS

Voelcker Diagnosis and Treatment of Fractures of the Region of the Elbow-Joint (Diagnose und Therapie der Fraktur in der Nähe des Ellenbogengelenks). *Med. Klin.* 9 2, 12, 442, 450.

By Zentralbl. f. d. ges. Chir. L. Gessing.

The most important fracture of this region is the supracondylar which occurs as an extension or a flexion fracture, the latter being considerably less frequent. The supracondylar fracture is easily diagnosed by break in the axis of the upper arm, the normal location of the olecranon and the location of the lateral and median condyles. It is the fracture of youth and results from a fall upon the extended hand or upon the flexed forearm. Cases without dislocation, crepitus and fracture pain are the essential features. The treatment consists in reposition, with or without narcotics, and dressing in hyperflexion in a Kramer splint or the method of Hensner.

(muslin bandage and cast) may be used. Reduction is effected by backward traction on the upper arm and downward traction on the fore-arm, flexing it to a right angle to overcome the shortening. After two to three weeks active and passive motion is begun under the observation of the physician. The fracture of the external condyl is recognized by the local swelling of the joint, by local sensitiveness to pressure, by the mobility of the condyle, and lastly by the cubitus valgus. In this fracture the symmetry of the three points (both condyles and olecranon) is disturbed. The treatment consists in replacing the fragment and the application of Kramer's splint with the arm in right-angled position. If dislocation is marked, extension is to be preferred. If the condyle is rotated 90° or more, it is necessary to spike it or wire it in its normal location. The fracture of the internal epicondyle is diagnosed more easily. Fixation of the arm for 3 to 4 days is the best treatment. The olecranon is fractured usually by direct force and the fragment is drawn upward by the triceps. The arm must be put up in extension to bring the fragments as near as possible to each other. This can be aided by bringing adhesive strips from upper fragment downward, both sides of the arm drawing the fragment nearer. A fracture of the head of the radius is at times difficult to recognize. Painful pronation and supination of the fore-arm, with the hand upon the head of the radius will confirm the diagnosis. It is best put up in right-angled flexion on Kramer's splint. The splint should remain two weeks in children and three weeks in adults. Active motion may be done at home with safety. The prognosis is good and in spite of the early formation of callus, the result will usually be good.

VON KROG.

Barren Injuries to the Condylar Cartilage
(Über C. Knochel-Verletzungen) Arch. Klin. Chir.
9 3, heft, 658

By Zentgraf, L. d. med. Chir. u. L. Gussing.

The author discusses the mechanism of meniscus injuries and concludes that separation of the semi-lunar cartilages can only occur in normal joints with firm ligaments, and then through forcible rotation of the leg against the femur with simultaneous contraction of the quadriceps muscle. Without this contraction only porous cartilages can be torn from the condyles, and then only by sudden passive extension of the thigh. The greater frequency of injuries of the inner meniscus is due to the habitual outward rotation of the toes.

The diagnosis of injuries of the semi-lunar cartilages is not always easy. The treatment in recent injuries should always be conservative, in older ones operative suture of the cartilage seems of questionable value, and partial resection predisposes to arthritis deformans. The author therefore advises total extirpation of the injured and separated cartilage. A detailed account is given of nine cases treated by operation, among which only one involved the lateral meniscus.

JOSTRA.

Winslow A Case of Complete Anterior Dislocation of Both Bones of the Fore-arm at the Elbow Surg. Gynec. & Obst. 9 3, xvi, 569.
By Surg., Gynec. & Obst.

This is a case of anterior dislocation at the elbow occurring in a boy aged 9. As he was carrying a bucket filled with water he tripped and fell upon his right elbow producing an anterior dislocation of cubital bones, which was verified by a skiagraphic picture. The fore-arm was somewhat lengthened and semiflexed. The upper end of the radius and ulna was felt in front of the humerus, while the articular surfaces of the humerus were palpated posteriorly. Reduction was effected by acutely flexing the elbow and pushing the bones of the fore-arm strongly downward.

The interest in this case lies chiefly in its rarity, as, according to Stimson, the number of reported observations has not yet reached twenty-five, even including seven cases in which the olecranon process was broken off and remained in place posteriorly. These dislocations usually occur in the young and are frequently compound. They are generally due to a fall upon the acutely flexed elbow though some cases result from a fall upon the outstretched palm. One case, at least, was due to traction upon the extended fore-arm. Of the cases reported, one died three weeks subjected to amputation and several, being compound, suppurated resulting in impaired function.

Reduction, probably is most readily effected by flexing the fore-arm acutely and pushing downward and backward. In some cases reduction has been accomplished by passing a band around the upper end of the fore-arm and pulling downward, while pressure is made on the humerus to force it backward. Reduction has also been effected by bending the flexed fore-arm around the knee of the operator or the arm of an assistant.

SURGERY OF THE BONES, JOINTS, ETC.

Murphy Arthroplasty Ass. Surg. Phila. 1913.
Vol. 503.

By Surg., Gynec. & Obst.

For clinical purposes ankyloses may be divided into (1) bony, (2) cartilaginous, (3) fibrous (4) peri-articular, ligamentous, capsular and (5) extra-articular. The etiology and management of the conditions are taken up in detail. The main principle consists in interposing between the bones, after their separation, some material which will prevent bony union. Various substances have been used, but the best is a pedicled flap of fat and fascia from the tissues in the neighborhood, or if that is not possible, then a flap of fat and fascia from the trochanteric bursa portion of the fascia lata. Next in importance is the restoration of the normal conformation as nearly as possible, in order that the patient will have as useful as well as a movable joint.

In general, the elements which have contributed most to the failures have been (1) insufficient or defective excision of capsule and ligaments (2)

insufficient interposition of fat and fascia between the bony surfaces (3) infection (4) sensitiveness to pain in motion after operation. The interposing material must cover the entire articular surface of the bones, being attached, however, to only one bone.

The technique in the various joints differs, not in principle, but only so far as necessitated by the individual joint.

Murphy has made use of two incisions in exposing the hip joint. The original one was U-shaped flap about 3 inches wide and 5 inches long with the base up. The incision begins 1/4 inch above the trochanter and 1 inch behind, extends down about

1 inch below the trochanter, passing under and in front of it then up to a point opposite the commencement, thus placing the trochanter approximately in the center of the U. Another incision is made along the ilio-trochanteric line. It commences about 1 inch below and to the outer side of the trochanter and extends up for about 5 inches in straight line with the anterior superior spine. These incisions are employed as is demanded by the individual case. The next step is to free the trochanter, leaving its muscles attached to it.

The patella has been handled in four different ways (1) Interposing flap from the vastus externus or internus. (2) Splitting it in two from above down, then turning the upper half under the lower so the smooth spongy surface comes next to the femur. (3) Freeing the vastus attachments to the quadriceps for 1/4 inch above the patella next dislocating the patella from side to side during the operation when the limb is straightened out and the flap interposed the patella is separated from the overlying skin and fat by blunt scissors dissection up over the quadriceps and down over the ligamentum patellae to its attachment. No rotation of the patella is made so the upper surface of the patella becomes its articular surface and the prepatellar bursa aids in making lining for the new joint. The upper surface of the patella is trimmed down with forceps until level. The vasti are now sutured to the opposite sides of the quadriceps tendon, whence they were freed, preventing luxation of the patella. (4) Covering the under surface of the patella and entire articular surface of femur with graft from trochanteric zone of fascia lata, without rotation of patella. Good results are had with all of these, but the rotation method is simplest, and after operation gives additional leverage to quadriceps tendon. It has some disadvantages, as it supports the vitality of the skin flaps.

Since adopting this plan, Murphy encountered cases in which so many operations had been performed that even the capsular flap could not be secured. Then he resorted to the final or third means for securing the interposing flap. After denuding the bone and molding its surface, removing as much as necessary to (tibia or femur completely extended the limb, he took a portion of fascia lata and trochanteric bursa from the hip and interposed it en masse, in the knee sutured it first

to the posterior condyloid portion of the capsule brought it clear over the anterior surface of the femur and lower surface of the femur and lower surface of patella accurately sutured it on both sides and both ends, so it covered all of the lower end of femur and prevented bony contact.

Having exposed the joint, made the flaps, and separated the patella, the ankylosis between femur and tibia is also severed by 'carpenter' chisel, using both grooved and straight as may be necessary. Rotation of patella is not always necessary except when ankylosis is apt to recur.

The author takes up other joints in detail, giving the operative technique.

Prognosis of arthroplasty: 1. Perfectly movable, normally functioning joints with normal sliding and rotary motion can and have been reproduced. 2. A new synovialoid membrane is produced with fluid not synovial but resembling synovial fluid, and lining cells identical with those of the synovium, closely resembling the endothelial cells of normal synovial membrane. 3. These joints support full weight and traction. 4. They are painless once the process of repair is complete. 5. They are not subject to the hematogenous metastatic arthritides of normal joints. 6. A fibrocartilage-like structure develops on the end of the bone, and the latitude of motion increases with time up to the full anatomical limitations in the uncomplicated cases. The production of new joints is not difficult technically nor is it associated with great danger to life. The many details in the interposition of the flaps are essential, and must be systematically carried out to achieve the best results. Asepsis is essential, though not absolutely necessary.

Murphy has devoted much attention to the prophylaxis of ankylosis. He believes the great majority of cases of ankylosis, the result of a metastatic arthritis ("inflammatory rheumatism" which is initiated with chill) are avoidable. He is absolutely convinced that the correction deformities following metastatic arthritis are avoidable. The acute arthritides, and especially those that have an initial chill, are surgical lesions from the very first day. The initial chill is warning ankylosis probably will occur therefore the limb must be kept in good position from the very beginning and the inter-articular pressure by involuntary muscle contraction must be overcome. This is best accomplished by Buck's extension. This not only prevents deformity but greatly alleviates suffering, and usually prevents the ankylosis. The plaster cast in acute infectious arthritis favors ankylosis and should never be used. In tuberculous it favors repair and therefore lessens the likelihood of ankylosis. Extension of sufficient weight to overcome the muscular contraction is the ideal means of preventing deformity and avoiding ankylosis.

Murphy's final conclusion with regard to arthroplasty is that here the technique is carried out properly in a primarily sterile field, the results far exceed his original expectations. They can be secured

uniformly and, when they are not secured, the failure must be charged to some defect in technique or the subsequent management. L. J. MITCHELL.

V Iptos Osteoplasty in Pseudo-Arthroisis of the Tibia (Knochenplastik bei Pseudarthrose der Tibia). *Zentralbl. f. Chir. u. Gebirgsch. Orthop.* 9 3, 24, 27. By Zentralbl. f. d. ges. Chir. u. l. Grauegeb.

The treatment of pseudo-arthroisis of the tibia has been successful almost without exception even in the apparently hopeless cases by uniting both fragments by means of bridgework made of petiolated lamella of bone and periosteum. Technique: A flexible flap of periosteum plus part of the cortical layer of the subjacent bone is cut with a hook-shaped distal extremity almost parallel to the long axis of the proximal fragment beginning immediately above the line of fracture. This is done by means of a chisel. Before turning this flap over into the distal fragment the latter is prepared as follows: Two periosteal lobes are formed the larger one is cut obliquely and folded back laterally the smaller one is continuation of the larger one at its lower end and is folded back distally into the bone then denuded of its periosteum groove is chiseled, corresponding in size and shape to the hook-shaped flap about to be overlapped from the upper fragment of bone this groove extends to the line of fracture. A similar channel is made in the proximal fragment, extending from the line of fracture to the base of the osteo-periosteal flap described above.

The preparation being finished the osteo-periosteal flap of the upper bone is laid into this channel, bridging over the two fragments of the fracture and is then covered by the peripheral periosteal flaps which are fixed over this newly placed tissue. The parts are then immobilized in plaster of Paris for several weeks.

By Röntgen photos, Volpert demonstrated the coalescence of the flap with its new bed and its gradual growth in situ. KNOX.

Taylor Restoring Mobility After Bony Ankylosis of the Joints. *V Y M J.* 9 3, 274, 25. By Surg., Gynec. & Obst.

This paper is continuation of some of the preliminary work previously reported. The author first reviews the literature of operative treatment of bony ankylosis of the joints in detail and brings it down to date. He next mentions the different methods used by all operators for reduction of fragments after bony ankylosis as follows:

1. Briseinent force.
2. Interposition of foreign non-absorbable substances.
3. Interposition of muscle and fascial flap with nutritive pedicle.
4. Interposition of heterogeneous fascia or membrane.
5. Interposition of autogenous and homogenous fascia or membrane without nutritive pedicle.

6. Interposition of absorbable animal substances.

The author emphasizes the fact that acute and active chronic cases should not be operated upon. After experimentation the author finally hit upon the following mixture as suitable for interposition between joint surfaces after breaking up bony ankylosis. The solution is one part yellow wax and five parts lanolin, melting at about 130 degrees F. The employment of an excessive amount of wax in the articulation is a mistake, as it may cause such intra-articular pressure that the sutures may open. Only enough should be injected to coat over the eroded bone areas.

Traction by Bick's extensor on the lower extremities is useful. One must bear in mind that joints long unused and ankylosed become flat, not rounded, so that if the formation of further ankylosis can be prevented, a useful and functioning joint may be counted upon according to Wolf's law. A rounded articular surface with progressively increasing range of motion with the improved muscular power can reproduce to a certain extent. In operation the bones should be fashioned as nearly as possible like the normal articulation. This may be done by chisels and gouges. For the articulation of the femoral head special burrs should be employed. The Gigli or Gigli saw can only be used when the articular ligaments can be voided, so as to prevent stiff joints. All ligaments, and as much capsule, bone and cartilage as is possible, are to be preserved. A number of cases with histories are cited, both experimental upon animals and upon patients. These are accompanied by a series of excellent X-ray pictures. The author states that in a number of subsequent operations it was found that patients do better with softer wax mixtures in the proportion of one part of wax to ten of fat.

FREDERICK C. DYAR.

Lexer Transplantation of Joints Obtained from Cadavers (Transplantation von Leichen Gelenken). *Deutscher Chir. Kong.* 9 3. By Zentralbl. f. d. ges. Chir. u. l. Grauegeb.

Lexer has transplanted joints from cadavers in two cases. In one case infection occurred, and in the second case in which the knee joint of an executed person was transplanted shortly after death, the function was bad and Lexer performed a secondary resection. The microscopic examination showed necrosis of the bone. It makes little difference whether the transplanted bones are vital or not. The question is are they not so quickly resorbed that their resistance suffers? Homoplastic transplantsations give still the best prognosis but failures may occur when the recipient is tuberculous or leucic. The great difficulties in heteroplastic surgery arise from the difference in the albumens of the two individuals. I. Lexer's clinic successful experiments are in progress to make heteroplasty possible by preliminary treatment of the blood serum.

KATZBERG.

Goebel Replacement of Finger and Toe Phalanges (Ersets von Finger und Zehnpfalangen). *Monatsschr. med. Naturgesch.* 9 3, ix, 351.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Following the procedure of Wolf in cases of spina ventosa of a finger phalanx, Goebel replaced the phalanx of the fourth finger in a sixteen-year-old boy by the phalanx of the second toe. Healing followed without reaction. An X-ray picture taken several weeks later showed well preserved transplant. The functional result also was good. Goebel gives this procedure absolute preference over the transplantation of periosteal joint chips between the epiphyses as recommended by other authors. Goebel points to the early return of the normal functions as of special significance in connection with the success of the transplantation. *Rosen*

Körtner End Results in Transplantation from the Dead and from a Monkey (Dokumentation der Transplantation von der Leiche und vom Affen). *Deutscher Chir. Kong.* 9 3.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The author demonstrated two specimens of hip-joint transplantation from the cadaver. In the first case the head of the femur was removed from corpse, dead thirty-five hours, and implanted into a patient in whom the head and neck of the femur had been removed for chondrosarcoma. The case was demonstrated two years ago. The patient died thirteen months after the transplantation from pulmonary metastases. In the second case on account of a local recurrence, disarticulation of the hip-joint had to be done and transplantation from corpse three hours after death was used. The findings in both cases were the same: the bone, as he examined microscopically, was dead and was slowly being substituted by live bone tissue. Of particular interest was the firm and functionally correct attachment of the articulation to the dead bone. The author also demonstrated a child in whom, on account of a congenital defect of the fibula, he transplanted the fibula of a monkey. The transplanted fibula is completely healed, as is shown by X-ray pictures. *Karenstrom*

Fassio Primary Muscular Sarcoma and Myo-sarcoma (Sarcoma musculaire primitif et myosarcome). *Polisio Roma*, 9 3, ix, set. chir., 88.
By Journal de Chirurgie

After having stated that the occurrence of primary muscular sarcoma is questioned by no one the author contributes a schematic table showing the rapid development and the particular clinical mani-

festations of this tumor. This is followed by a study of the macro- and microscopic, anatomical and pathological characteristics of these growths. The etiology of these tumors has been, and still is, under discussion. For the most part, the majority of them are covered with a limiting capsule, fact of extreme importance from the histo-pathological and therapeutic standpoint. It has lately been demonstrated that the capsule should not be considered as limiting membrane but rather as a zone of invasion and that the macroscopic limitation is microscopically infiltrated. The author claims that it is necessary to perform more radical operations without limiting one self, as has been proposed, to removing the growth only. The operator should take into consideration the possibility that the tumor has broken through the limiting membrane and invaded the surrounding tissue. It is also essential that no deep metastases be allowed to remain.

In the following chapter the author reviews number of cases of muscular sarcoma treated by radical myoelectomy. The following are some of his personal observations. A child ten years of age had had, for 6 or 7 months, a tumor the size of a small nut which occupied the external and anterior portion of the left thigh. For the past 3 months, this little tumor had become painful to the touch while in the past few days it had increased to the size of hen's egg. This circumscribed, smooth, non-fluctuating tumor immobilized by the fixation of the thigh muscles, was rendered mobile with the complete relaxation of these muscles. The overlying skin was normal and unattached to glandular enlargement was perceptible. The diagnosis of primary muscular sarcoma was made. After having crossed the superficial tissues and pectoralis, the tumor rested in the deep anterior portion of the thigh and it could be removed only by sacrificing the neighboring muscular structures. Seven two years later the little patient was in perfect health in every way, moving the limb freely and walking normally. Microscopically the tumor consisted of oval-shaped fibers and was limited by capsule of muscular fibers. Histologically it was composed of small round cells which at the periphery infiltrated the surrounding tissues in various places.

In conclusion the author states the various observations published demonstrate that, in case of primary muscular sarcoma, radical myoelectomy with extensive removal of the neighboring muscles not only does away with the grave after-results, but also gives good functional results and permits of lasting union such as cannot be obtained by the radical operations formerly practiced. *A. Bower*

ORTHOPEDIC SURGERY

DISEASES AND DEFORMITIES OF THE SPINE

Rothmann The Present and Future of Spinal Cord Surgery (Gegenwart und Zukunft der Rückenmarkschirurgie). *Berl klin Wochenschr* 9 3 1, 933. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Rothmann has collected twenty-one cases of operations in the spinal cord from literature although the first operation was performed in 907. Twelve of these were for intra-medullary tumors, three for extra-medullary tumors which had penetrated the spinal cord secondarily to foreign bodies (bullets). In the spinal cord and four for circumscribed foci of various kinds (one tuberculous, two cysts, one hemorrhagic). Four patients died in five there was no particular clinical result in twelve cases the results were good. He sets forth theoretic considerations for spinal operations. The loss of the posterior columns of the cord can be remedied functionally with comparative ease. The gray substance in one or two spinal segments may be destroyed extensively without causing any other disturbance than local paresis and trophics in muscle regions supplied by them. Only the fourth cervical segment is excepted on account of its relation to the phrenic centers. Even with destruction of the posterior columns, gray substance and anterior columns in man, we may count conduction through the lateral columns, if the lateral pyramidal columns are intact, making it possible to stand and walk and transmit pressure pain and temperature sensations.

The destruction of one lateral column through two or three spinal segments causes paralysis of the extremity on the same side, which, especially in the leg, may cause marked atrophy. It also causes an increase in the pain and temperature sensation in the opposite extremity. There is little chance of restitution to normal functions. According to this, we may venture to operate on foci localized centrally as well as laterally. Moreover he advances the possibility of treating spastic contractures by cutting the posterior columns, unbearable pain by cutting the crossed antero-lateral tracts, athetosis by cutting the lateral pyramidal tracts. The active participation of a neurologist is essential in these operations.

WARM.

Renzl Surgery of the Spinal Cord (Rückenmarkschirurgie). *Deutscher Chir. Kong.* 9 3. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Of five extra medullary tumors, three were cured, one was improved, and one died. Two intra medullary tumors were cured. The prognosis is bad in vertebral tumors and hopeless in cancer, of which there were five cases, with three deaths and two improvements. The suspected tumor was not found in five cases, twice circumscribed meningitis serosa complicated the operation. Three times

decompression was undertaken, once without any benefit once with temporary improvement, and again with permanent good results. In five cases of fracture of the spinal column, the recently recommended early operation was performed, the results being rather unsatisfactory. It had no good effect in two cases of spondylitis. Sixteen operations were performed on fifteen patients for spasm. In spasm of the lower extremities, four successful results were obtained out of six cases, less favorable results were seen in spasm of the upper extremities, and none in athetosis. In a case of gastric crises, in which double vagotomy had already been performed in vain, Foerster's operation had just as little effect. Altogether in forty cases, there were thirteen deaths, five from the operation, two from meningitis, the latter brought about by incontinence of urine.

Where improvement or cure occurred it took place gradually and was apparent only after a long time. Operations were performed only on one side under general anesthesia. Only a very small opening should be made in the dura, in order to guard against a sudden decrease in the intra-medullary pressure. For the same reason the operation should be performed in Trendelenburg position. The extra-dural sections of the roots as recommended by Guleke offer greater technical difficulties than Foerster's original operation, yet it is a decided advance. The prognosis in spinal cord operations is better than in brain surgery. Four cases have remained permanently cured after periods of from two to five and one half years.

Becker gives a case history in which he recommends puncture with a fine syringe instead of section of the spinal cord.

KATZENTHUM.

Nasta The Treatment of Tabetic Gastric Crises by Foerster-Guleke Operation (L'opération de Foerster-Guleke dans le traitement des crises gastriques tabétiques). *Revue de chir* 9 3 1, 90.

By Journal de Chirurgie.

Nasta reports case of a man 38 years old who entered the hospital because of very severe gastric crises, eighteen months duration. Pain and vomiting had become more and more intense and frequent and no treatment had any effect. On admission the pains were chiefly in the epigastric region, radiating along the base of the thorax which seemed to be pressed as in a vise. There was marked pyrosis and during the crises vomiting was almost constant night and day. Between the crises there were remissions of several days duration, during which the patient was moderately comfortable, but the pains during the crises were so severe that 5 to 20 centigrams of morphin a day was not sufficient to quiet them. They were augmented by pressure in the epigastric region. The patient, moreover suffered with pain in the spine between the fifth and twelfth dorsal vertebrae. The pupils were contracted and

did not react to light. Romberg sign was present. The patellar reflex could not be obtained.

The patient was operated on January 9, 1933, under spinal anesthesia with strychnine and stovaine. Extradural resection of the posterior roots of the sixth, seventh and eighth dorsal segments was performed. The operation lasted three-quarters of an hour. At the end the patient complained of severe burning pains in the lower extremities. The following night he was comfortable. There was no longer any sense of constriction in the epigastrium and he was able to breathe quietly. There was no postoperative vomiting, and on the sixth day he went home. A month later the patient's condition was very satisfactory. He had suffered with none of the previous symptoms since leaving the hospital outside of few burning sensations caused by slight friction. There was diminution of sensibility anteriorly about the umbilicus and the breast and posteriorly between the sixth and tenth dorsal vertebrae.

Five weeks after the operation the patient again began to suffer pain beneath the umbilicus though this was scarcely comparable with his previous suffering. There was no vomiting and no sense of thoracic pressure. Apparently insignificant number of roots had been resected. (M. C. C.)

MALFORMATIONS AND DEFORMITIES

Thomas: Report of a Case of Total Congenital Absence of the Femur. *Cleveland M. J.* 1933, 28, 3. By Surg. Gyroc. & Obst.

The author reports a unusual anomaly — total absence of the femur (phocomelia) in an infant of three months, born of a syphilitic mother. The child showed signs of congenital syphilis a few days after birth which readily responded to treatment. Shortening of the leg was quite noticeable from the beginning, because of which an X-ray picture was taken revealing the anomaly. (Crawford M. Jones.)

Hannock: Talipes Equinus Deformity. *Am. J. Surg.* 1933, 21, 114. By Surg. Gyroc. & Obst.

The article is a description of the author's method of employing kangaroo tendon as suture material in nine cases of talipes equinus. In patients over eight years of age the rock lengthens the tendon by means of an vertical L incision in the tendo achilles and uses the cut ends of kangaroo tendon to quilt the edges of the tendon from bone down and in place of ordinary paraffin silk. The advantages of this material are its tensile strength and absorbability. (P. G. P. Gentry.)

SURGERY OF THE NERVOUS SYSTEM

Eden: The Treatment of Tendo- and Neurolysis with Transplantation of Fatty Tissue (Tendo- and Neurolysis mit Fettplastik). *Dtsch. Arch. Klin. Chir.* 1933, 93, 1. By Zentgraf, J. & Gieseler, L. & Gumbert, L.

In the Lexer clinic fat was used in six cases of tendo- and neurolysis to cover the defect. The tendolysis was due to secondary destruction of the extensor tendons and complete functional result was obtained by transplanting fat to make up the defect. Among the six cases of neurolysis one case was not re-examined and the other was operated only four weeks ago. Of the remaining cases two had median nerve paralysis due to ulnar infection and the other radial paralysis due to fracture of the radius. In both cases the nerve was liberated from the scar and surrounded with fat, resulting in complete cure of the paralysis.

Hayward in discussion reports four cases of fat transplantation from the Lexer clinic. They are cases of partial or complete removal of the maxilla on account of benign tumors, in which the defect was replaced by a topoplasmic transplantation of fat. The cosmetic result was good. (Katzmeyer.)

Foster: The Indications and Results of the Excision of Posterior Spinal Nerve Roots in Man. *Surg. Gyroc. & Obst.*, 1933, 28, 463. By Surg. Gyroc. & Obst.

The first indication for excision of the posterior spinal nerve roots, according to Foster, is based

upon the physiological function of the same as conductors of sensibility and by violent neuralgic pains which defy other methods of relief. He reports 43 cases under this heading with the following results: successful failures, and results unknown. In the majority of cases the failure was due to not having excised enough roots. In cases of tabes the severe lightning pains he proved that for continuous relief of pain a great number of roots must be cut. Exceptions are seen only in those cases in which a localized section of one or a few single roots can with certainty be stated.

The second indication for resection is the visceral, especially the gastric crises in tabes. In this group he reported 64 cases, 56 were successful, failures, and 6 died. The cause of the more or less imperfect result was attributed to failure in radical root resection, due to the difficulty in recognizing and isolating them from the spinal cord, owing to constant arachnoiditis. In some cases relapse is due not to failure of radical resection, but to irritation of blood flowing during the operation into the net of the arachnoid.

The third indication for resection is spasticity and spastic paralysis due to disease of the cortico-spinal path, especially the pyramidal tract. Of this group Foster collected 39, 14 died, thus making mortality of 35.8 per cent. He gives in detail several case reports also showing remarkable improvement following resection. Aside from this condition, resection of posterior roots has also been recommended

for some other motor disturbances, especially atetosis. The results in the cases were mostly bad, as the condition depends not upon an increased afflux of sensory stimuli to the gray matter of the spinal cord, but to an increased afflux of motor impulses proceeding from middle brain and carried by motor paths to anterior spinal horns. Leriche has divided some posterior cervical roots in case of Parkinson disease with as he says, satisfactory result.

After reviewing the cases he enumerates the single indications and contra indications for resection of posterior roots in spastic paralysis. First the morbid process must be stationary or progressing very slowly. Secondly must bear in mind that the resection of the posterior root relieves all the spastic symptoms but not the paralysis thereof.

certain residue of the innervating pyramidal fibres must be conserved, or else the spastic paralysis is transformed into a flaccid one. Thirdly after the root resection and the return of voluntary mobility a long and very careful exercise treatment is necessary by which alone locomotion is gradually gained. Fourthly the disappearance of the spasticity after the root resection, taking place with the certainty of experiment, is the best proof of the sensory origin of the spastic contracture. But a certain degree of spasm sometimes returns, owing to the fact that the spinal gray matter is gradually recharged by the remaining posterior roots.

In conclusion he recommends the use of electrical apparatus for stimulation in distinguishing between the anterior and posterior roots.

R. W. McNEAL

DISEASES AND SURGERY OF THE SKIN FASCIA APPENDAGES

Scholtz. The Treatment of Lupus (Die Behandlung des Lupus). *Zentralblatt für Chirurgie* 9 3 2, 92.
By Zentralblatt für ges. Chir. Greifswald.

For the successful treatment of all cases of lupus great care and patience are of fundamental importance. Even the brilliant success of the Finsen Institut is largely due. Less expensive though more complicated, methods are followed by equally good results. When possible excision followed by suture is the method of choice. Under good technical conditions the defect may be covered by plastic flap. The size and location of the area alone determine the limits of the method. Whereas Finsen rays have no effect upon the small nodules surrounded by hard scar tissue upon rapidly hypertrophied tips and upon those affecting certain areas of mucous membrane. The curette and Paquet cautery alone are not sufficient and the same is true of the hot-air treatment advocated by Hollander. Regarding the value of the diathermic treatment no definite statement can as yet be made. It seems, however, to certain degree to select the diseased tissue. This applies even more strongly to the tuberculin light and Röntgen-ray treatments, as well as to the application of the caustic ointments of arsenic, salvarsan, neosalvarsan resorcin and above all of pyrogallate. The remotest effects are treated with advantage by Röntgen-rays or radium. Tuberculin, caustic, light and Röntgen-rays produce results on lupus tissue by setting up inflammatory or necrotic processes. Chemotherapy (salvarsan and copper leucethin injections) seem to produce beneficial results. Severe cases always call for combination of methods, and in the selection of the proper combination lies the secret of success. The author usually pursues the following course. Tuberculin injections followed by quartz-rays with compression. After the inflammatory phenomena subside, tuberculin is

again injected, and pyrogallate ointment applied. When the eschar separates quartz-rays at a distance of 10 cm. are used. When the reaction from this has subsided, Röntgen-rays are applied, followed by pyrogallate ointment. Then follow quartz and Röntgen-rays again and, when the skin has healed it may be necessary to use the Finsen-rays. During the whole course of treatment tuberculin injections are given regularly at intervals of 3-8 days and in large doses.

H. H. H. H.

Wiener. Skin Grafting Without Dressing. *J. Am. Med. Ass.* 9 3 12, 350.

By Surg. Gynec. & Obst.

The author directs attention to the great advantage of dispensing with dressings after skin grafting. Wiener's technique is as follows. The grafts are cut as thin as possible and applied in the usual manner; any discharging slough is packed with gauze and the packing renewed whenever it becomes saturated. On the first or second day crust of liquefied serum forms between the grafts. These should not be removed and for at least a week no dressing of any kind is applied. The grafts become adherent after the first day or two and assume healthy pink color. On the seventh or eighth day the entire grafted area is covered with a weak ichthyol ointment. Under this the crusts between the grafts fall off and the grafted area soon assumes a normal appearance. It is not advisable to apply any wet dressing until at least two weeks after the grafting. If applied sooner the grafts may macerate and lose their vitality. In grafting the extremities, the limb is swung free of the bed-clothes. In grafting the trunk, care to keep off the bed-clothes is all that is needed. The results from this method of grafting, even in the most difficult cases, have been far superior to those obtained with dressings.

MISCELLANEOUS

CLINICAL ENTITIES — TUMORS, ULCERS, ABSCESSSES, ETC.

Lissauer Recent investigation on Tumors
(Neuere Arbeiten über Geschwülste) *Med. Klin.*
9.3.19. 420

By Zentralbl. d. ges. Otol. Geburtsh. d. Gynäkol.

Roman reports three cases of chloro-myelogenous leucemia with green discoloration of the affected gland leucemic infiltrations and nodules Warstat describes case of myeloma of the dorsal vertebra (plasmacellular myeloma) Herzog reports case of intestinal carcinoma associated with tuberculosis histologically could be also have favored the carcinomatous development The author expects the fact that the determining factor in the development of carcinoma lies in the primary transformation of the epithelium Bahre gives an example of the occurrence of carcinoma with lymphatic, citing case in which epithelium of the lip developed on the base of lymphatic keratoma rich and Namba describe case of carcinoma of the appendix which is of interest for the reason that the epithelial proliferation tended into the mesenteric omentum These three consider these three more typical carcinoma which existed primarily and in which the inflammatory processes are of later development Rothke reports papillary cyst of the ovary with independent neomatous and sarcomatous development

Von Lamezan concludes from a series of experiments on rabbit by injection of fluid that the epithelial proliferations demonstrated by Fischer have nothing in common with carcinoma Struch as the latter is produced carcinoma by transplantation in mice or provokes microscopically the multiple metastases had occurred such as only found in cases of spontaneously developing tumors If the likewise supports the analogy between carcinoma of milk and carcinoma of the ground that there are numerous metastatic growths and an infiltration with both the inoculated and spontaneous carcinoma. Simmonds contributes a case of tumor of the thymus gland Tumors of this organ are carcinoma, sarcoma or thymoma as demonstrated by the Hassel granules in the metastases The author concludes with quotations from the statistics of Theilhaber on the mortality of cancer in Berlin and of Iviper on the occurrence of malignant tumors in the German colonies. von G. off

Nri tel Newer Ideas Concerning the Problems of Cancer Etiology *Med. Rev.* 9.3.19. 487
By Surg. Gynec. & Obst.

The older theories of neoplasia are first reviewed and criticized then the most recent facts and theories are brought out and the same time new and original ideas on the subject are suggested The following criticisms are made the various theories

(1) Cohnheim Does not explain the origin of all tumors, nor the reason for or the stimulus, sudden division of the cell rests.

(2) Ribbert's von Ilmsen and Adami Do not show the causes for the sudden change from the normal to the abnormal.

(3) Haefer Deals too much with heredity and does not explain those tumors following injuries or irritation.

(4) Gertel Does not explain why certain cells proliferate in malignant manner nor have the elements of chromatin the cell nucleus been proven. In the parasitic theory while practically every form of micro-organisms has been accused, none has been satisfactorily proved, although any may be predisposing cause of precancerous cell degeneration. All theories fail to explain the cause or causes of cancer and other growths.

The theories from studies of yeast and half advanced biochemical hypothesis as the cause of neoplasia. Primary some form of cell or tissue degeneration is necessary and is due to one of the groups of factors Interference with the blood supply or nutrition. (1) Biochemical (2) chemical (3) physical (4) parasitical (5) functional disturbances This is the primary precancerous stage Secondary these primary areas show a strong affinity for certain inorganic blood salts and marked change in their chemistry and metabolism.

The secondary precancerous stage The investigations of Ringer and Soel Moore, Roaf and White, Rowe and Cropper and Carrel are cited as showing that by slightly altering the tension, alkalinity or inorganic salt content of tissue medium sudden stimulus may be given to its growth Carrel is also quoted as showing that normal connective tissue growth in vitro may be accelerated three to forty times by extracts and juices of tissues. The author states that normal cell reproduction is due to fixed ratio between the salt in the blood lymph and tissues, and an intact chemical structure of the cell. If it is not possible to attack this disturbance of these factors could result in typical growth in the locality involved.

McClellon Mitchell and Lillie are quoted as finding that increased cell growth metabolism and oxidation may also be due primarily to increased permeability of the cell membrane. All these cell characteristics, i.e. growth, metabolism, oxidation, and permeability may be accelerated by change in amount of inorganic salt content or of — Oil soluble in the medium. In pathological conditions there is definite affinity between dead and dying tissue and certain inorganic blood salts, especially magnesium and calcium. Which gradually increases the local salt content and, due to this influence, the neighboring cells become more permeable and absorptive thus growing faster and proliferating more, as com-

pared to other parts of the body. No specific substance or exciter has been defined, though Ross of London suggests various oons. Callins, Bullock and Rohdenburg also bear this out. The action of inorganic salts in stimulating cell growth is shown by Webb and Mann to be due to their electrolytic property.

Of the fats in the cell, lecithin and cholesterol mainly influence the growth. Abderhalden, Hahn, Robertson and Burnett are cited to this effect. The possibility of enzymic action as accelerating cell growth should be taken into consideration. Carrel showed the similarity between these extracts and enzymes. Ross's work on chicken sarcoma is quoted as bearing on the possibility of chemical substance influencing cell growth.

In adapting these theories to the cancer problem the author states that it is the site of greatest irritation and cell death that shows the most likelihood to malignancy, i. e. the stomach, breast, and skin. The questions of sex and age incidence of cancer may be explained on these same grounds. I. e. the uterus and breast being subjected to greater irritations, are more liable to pathological changes and that old age is the greatest time of degeneration of tissues and upset cellular chemical equilibrium. The influence of heredity is definite but may be explained by precancerous environment or transmission of precancerous conditions of susceptibility and metabolism. The rate of growth and malignancy of a tumor would depend as much upon the tissue involved as upon the stimulus. Increased growth of epithelial and connective tissue cells grow faster than muscle, nerve or bone cells. Metastases are due to direct transportation of cells from origin by blood or lymph aided by loosened general or local tissue resistance.

The symptoms of malignancy are explained by the absorption by the tumor cells of the food and salts in the blood and lymph to the detriment of the other tissues. Likewise the inability of these latter to give off their waste product results in more or less auto-intoxication. P. M. C. vs.

Lambert Comparative Studies upon Cancer Cells and Normal Cells. II The Character of Growth in Vitro with Special Reference to Cell Division. *J. Exp. Med.* 3, vol. 499.

By Surg. Gynec. & Obst.

Lambert presents his observations on the general character of growth in vitro of transplantable rat sarcoma and of normal connective tissue cells. The latter cells were grown from small pieces of blood vessel. It was found that primary cultures sarcoma cells exhibit much greater vitality than do normal connective tissue cells. There is a shorter latent period, an earlier period of growth, and cell multiplication proceeds more rapidly. Sarcoma cells are less active in secondary cultures, while connective tissue cells show markedly accelerated growth. Connective tissue cells are more easily grown over long periods in vitro than

are sarcoma cells. They multiply rapidly in cultures over three months old.

Atypical mitoses of several kinds are found in cultures of sarcoma cells, but are not seen in growths of connective tissue. The time required for division in rat connective tissue cells at body temperature varies within narrow limits (20 to 30 min.). Sarcoma cells exhibit marked variations and several hours may be required. Amitotic division has not been observed in either normal or tumor tissue. Evidence of nuclear budding however with the formation of cells containing several nuclei of irregular size have been noted. JAMES F. CRUMBIE.

Sutton Mycetoma in America. *J. Am. M. Ass.* 9, 3, 12, 330. By Surg. Gynec. & Obst.

Sutton adds to the literature of five previously reported cases of Madura foot in America, two which have recently been under observation in Kansas City. He presents in full the case histories with photographs of the lesions. Both patients were in the habit of living active outdoor lives in a subtropical country, one a male native of Mexico the other female native resident of Texas.

In a statistical study of one hundred cases of mycetoma Bocarro found that 91 spent the greater portion of their time barefoot in the open air. Eight were females, seven being the wives of agriculturists. The disease occurred most frequently between the ages of 1 and 40. Bocarro found that the causative organism most frequently gained entrance through the wound left by a thorn prick. The disease usually affects the feet though other exposed parts were attacked.

Clinically mycetoma may be divided into three varieties the yellow or ochroid the black and the red so named because of the color of the small masses or granules suspended in the oily seropurulent discharge from the sinns. The ochroid is the most common type while the red is exceedingly rare. It is probable that all types of mycetoma are due to streptothrix infection, but whether it forms are caused by an infection with the same organism, or whether more than one species plays a part in the disease, can not at this time be stated positively. L. G. DWYER.

Coffe The Identity of Cause of Aseptic Wound Fever and So-Called Post-Operative Hyperthyroidism and Their Prevention. *J. Surg. Pathol.* 9, 3, vol. 648. By Surg. Gynec. & Obst.

In this article the author again emphasizes the importance of exclusion of harmful physical and traumatic stimuli in operative work for which he previously coined the name "auto-association."

He concludes from his observations that the rise of temperature and pulse rate in aseptic wound fever and post-operative hyperthyroidism are the result of the conversion of energy into heat as a part of the activation of the brain, hence all of the body by the psychic and traumatic stimuli.

The fundamental principle upon which he bases

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O. J. 479
By Zentralbl. f. d. ges. Chir. u. Geburtsh. d. Göttingen.

Roman reports three cases of hetero-epithelioma. In the first case, the green discoloration of the affected gland, leukemic infiltration and nodules Warstlitz cites a case of myeloma of the dorsal vertebra ("plasmacelluläres myelom"). H. Lang reports a case of intestinal carcinoma associated with tuberculous lesions, both histologically could be shown to have favored the carcinomatous development. The author accepts the idea that the determining factor in the development of carcinoma lies in the primary transformation of the epithelium. Mahre gives an example of the occurrence of carcinoma with epithelioid cells in a high epithelioma of the lip developed on the base of a pyothecic abscess. Mikulicz and Namba describe a case of carcinoma of the appendix which of interest for the reason that the epithelial proliferation extended to the mesenteron of it. These three consider the carcinoma as a carcinoma which existed primarily and in which the inflammatory processes are of later development. Rothacker reports a papillary cyst of the ovary which independent an ovum and sarcomatous development.

Von Lamezis concludes from a series of experiments on rabbits to expect that the epithelial proliferation demonstrated by Fischer is nothing common in carcinoma. Strassburg was able after having produced sarcoma by transplantation to make it prove macroscopically that multiple metastases had occurred. He also found a series of spontaneously developing tumors. Hanke likes to support the analogy between carcinoma of mice and man on the ground that there are numerous metastatic growths and infiltration with both the inoculated and spontaneous carcinoma. Simmonds contributes a case of tumor of the thymus gland. Tumors of this organ are carcinoma, sarcoma or thymoma as demonstrated by the H. wall granules in the metastases. The author concludes with quotations from the statistics of Theilhaber on the mortality of cancer in Berlin and of Pelpier on the occurrence of malignant tumors in the German colonies.

Bristol Newer Ideas Concerning the Problem of Cancer Etiology Med. Rec., O. J. Linn. 187.

By Surg. Gynec. & Obst.
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(a) Cohnheim Does not explain the origin of all tumors, nor the reason for the stimulus to a sudden increase of the cell rests.

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The author from theories of years and half advanced biochemical hypothesis as the cause of neoplasms. Primary forms of cell or tissue degeneration is necessary and is due to one of two groups of factors. Interference with the blood supply or with the (1) Mechanical (2) Chemical (3) Physical (4) Parasitical (5) Functional disturbances. This is the primary precancerous stage. Secondary these primary areas show a change in the certain normal blood salts and marked change in the chemistry and metabolism. This is secondary precancerous stage.

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through which vessels are drawn, then turned back and held in place by small hooks attached to the tubes. The connection is made between the external jugular and the superficial vein of the forearm. The apparatus is so constructed that two ends of the vessel will be brought together and held in place by means of the apparatus alone.

L. G. GRONZ

Popelekh Remedial Agent Which Specifically Checks Coagulation and Decreases the Blood Pressure in the Female Genitalia (Über die spezifischen gerinnungshemmenden und blutdruck herabsetzenden Substanzen des weiblichen Genitalapparates) *Buchers Zeitschr.* 9, 3, 25, 65.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Gynäcgeb.

Popelekh states the fact of hæmorrhage in which a specific effect of hecking coagulation and decreasing blood pressure is attributed to uterine and ovarian extracts, because the same results may be obtained in other organs, etc. The arrest of coagulation is not caused by female ovarian hormones but by the indirect effect of the extracts used in the hæmorrhage. The action of female ovarian extract on the blood stream does not show any action different from that of other organic extracts. The action of all of these is the same producing decreased blood pressure and loss of coagulability. This behavior is produced by substance which Popelekh found hemolytic and named vasodilator.

BORZ.

Leale Thrombophlebitis of the External Iliac Vein. *J. Am. Med. Assn.* 9, 3, 51.

By Surg. Gynec. & Obst.

Leale considers particularly the symptomatology and differential diagnosis and reports also complications typhoid fever. The great relative frequency of thrombophlebitis of the left leg can be explained by the tendency to obstruction of the left external and common iliac veins by the left common iliac and external iliac arteries and particularly the left internal iliac artery as it arches around the fifth lumbar vertebra and the vertebral disk.

Thrombophlebitis in any vein is usually due to bacteriemia or toxemia resulting from the surgical infections or infectious diseases. In most cases a constriction of the vessel wall is needed to bring about thrombus formation even in the presence of a bacteriemia.

Palpation will at times reveal the thrombosed external iliac vein in the space running upward, inward and backward from point A little to the inner side of the middle of Poupart's ligament passing over the brim of the pelvis to point B the lumbosacral articulation and opposite the sacro-iliac joint.

The earliest and most helpful sign in diagnosis of this condition is the peculiar rapid, step-like rise in the pulse which often mounts to a considerable height.

L. G. DWAR

Enderlein Thrombosis of the Portal Vein Following the Effect of Blunt Force to the Abdomen (Thrombose der Pfortader nach Einwirkung stumpfer Gewalt auf das Abdomen). *Beitr. z. Hist. Chir.* 9, 3, 170, 176.

By Zentralbl. f. d. ges. Chir. u. L. Gynäcgeb.

The author reports a case of this rare affection (only six cases have been reported). The patient was brought to the clinic three and one-half months after the injury suffering from symptoms which were diagnosed as due to duodenal ulcer. A laparotomy however did not confirm the diagnosis; nothing pathological could be found. The patient died one and one-half months after autopsy in the right lobe of the liver was found a concentric laminated thrombus the size of a fist, situated partially within the right portal branch and reaching to the main vessel.

In regard to the treatment of portal thrombosis it seems more rational to the author to perform an anastomosis between the portal vein and the renal vein than to perform the Talma operation.

KROCK.

Ottenberg, Kallish, and Friedman Experiment on Agglutination and Hemolytic Transfusions. *J. Med. Research* 9, 3, 27, 34.

By Surg. Gynec. & Obst.

These three have attempted by a series of experiments to determine what would happen if hemolytic or agglutinating blood was transfused directly between two animals of the same species. As yet their work is incomplete and does not lead to final conclusions but still presents a number of interesting facts. By suitable technique, isoelectrolysis and isohemolysis can be demonstrated to occur between the bloods of different dogs. Isoagglutinins occur naturally and it is possible that the immune isohemolysins produced by von Dungern and Hirschfeld are merely intensifications of these. A sharp grouping could, however be made out in the naturally occurring agglutinins. Natural (as distinguished from immune) isoelectrolysis is, however a relatively weak phenomenon.

The direct transfusion of blood, whose red cells can be agglutinated and lysed by the recipient's serum, is followed by destruction of the transfused blood with an intense intoxication. It is not yet clear whether agglutination plays any part in this result or whether it is due entirely to hemolysis.

A very remarkable blood-picture, presenting many of the morphological forms peculiar to pernicious anemia, is produced when the blood of another animal of the same species is destroyed in the circulation. In the authors' experiments this was not due to anemia, as the animals' own blood was not destroyed and there was no reason to believe they were anemic. The changes must have been due to some peculiar toxic effect, on the bone-marrow of hemolytic blood destruction.

GEORGE E. BATTERY

BLOOD AND LYMPH VESSELS

Bellini Cirroid Aneurism of the Hand. *J. Med. Sci. N. Y.* 93, 21, 195. By Surg. Gynec. & Obst.

The author reports the case of a steam-fitter who, on August 1, 9, tried to stop sliding steel casing with his right hand. His hand was hyperextended at the carpal joint by the great force and he felt a sharp pain. The next day the veins on the dorsum of the injured hand were very much swollen. A few weeks later some of these veins were considered varicose and were excised, but the swelling returned immediately accompanied by profuse perspiration and intolerable pain.

Pulsation of the swollen hypothenar was noticed on April 30, 9. Diagnosis of aneurism of the superficial end-branch of the ulnar artery with a venous communication was made. At operation, April 9, a sac, formed by a blood vessel, three inches long was removed. The wound healed by first intention, the patient remaining well until May 3 when the symptoms returned. On May 3 the end-branch of the radial artery was ligated and relief from the pain lasted for four weeks only. On June 9 a communicating branch of the radial vein between the first and second metacarpal bones was ligated. On the 15th, an excision of the blood vessels and veins with ligation of the dilated veins on the volar side was performed. On July 20 and August 31 two more ligatures were applied, but the relief in each case was only temporary. Finally the little finger with the whole metacarpus was removed. Still the dilated veins persisted and the superficial vein above the elbow became enlarged. An aneurism was naturally expected, but microscopy of the removed finger showed no malignancy. After a few weeks all the distressing symptoms were obvious. The necessity of an amputation of the forearm became imperative. The patient recovered and is well at the present time, having gained twenty pounds since the removal of the painful condition.

The pathological findings showed that the vessels had greatly dilated lumina and much thickened walls. The vascular changes are chronic, probably congenital, and the condition developed after trauma, as has been observed in number of cases of this rather rare and interesting condition.

EDWARD L. CORRELL.

Haythorn T. baculosis of the Large Arteries with the Report of a Case of T. baculosis Aneurism of the Right Common Iliac Artery. *J. Am. Med. Ass.* 93, 12, 143.

By Surg. Gynec. & Obst.

T. baculosis lesions of the vascular system have long been of interest as points of distribution of bacilli in cases of general military tuberculosis. The case reported is of interest because of its rarity and because it gave rise to the presence of great numbers of tubercle bacilli in few glomeruli in the kidney where they caused little or no reaction in the tissue

about them. The absence of inflammatory reaction in the kidney probably indicates that the patient had reached a stage in which his system of defense was so exhausted that it could no longer react against the stimulus of the toxins.

Four general types of tuberculous lesions of the aorta and its main branches have been described:

1. Miliary tuberculosis of the intima.

2. Polyp of tuberculous thrombus attached to the intima.

3. Tuberculosis of the wall, involving the several layers.

4. Aneurisms, the walls of which are composed of tuberculous tissue.

Haythorn's case belongs in Group 4.

L. G. DWAN.

Ferrarial Primary Tumors of the Vascular Sheaths (Sur les tumeurs primitives des gaines vasculaires). *Clin. chir.* 913, 21, 130.

By Journal de Chirurgie.

The classic premises on tumors of the vascular sheaths are the pioneer works of Langenbeck, 186 and that of Reynaud, 1887. Since the appearance of the last of these, certain new growths have been eliminated from the classification of primary tumors of the sheaths, such as bronchial epithelioma, whose pathogenesis is very individual, and also sarcomas and lymphosarcomas in the neck whose origin is from lymph glands. Since this reduction, Kossig has expressed doubt as to the existence of primary tumors of the vascular sheaths, and Jordan also denies their occurrence. The latter believes the term should be dropped, since he considers that they are all secondary. Ferrarial demonstrates the legitimacy of the original classification. He believes in the existence of primary tumors of the vascular sheaths which have definite characteristics, which allow them to be differentiated from an anatomical or clinical point of view. He presents three personal cases, a lipoma of the carotid sheath, fibrosarcoma of the femoral sheath, and a lipoma of the femoral sheath. In each case operation showed that the tumor was provided with thin capsule which was in no way continuous with the plexus of the neighboring muscles, and that the tumor moreover had developed in the center of the vascular-nervous bundle whose elements are dissociated by it.

The author has studied the anatomy of normal vascular sheaths and has cleared up certain widely accepted errors. The vascular-nervous bundle possesses, as a whole, a fibrous sheath within this, each element — artery, vein and nerve — possesses an independent sheath of connective tissue. The spaces between the common outer sheath and these individual sheaths is filled by a loosely open tissue rich in fat and containing many lymphatic channels. He believes that the connective tissue partitions described in such detail by certain authors, are artifacts or purely imaginary. These conclusions are supported by histological preparations, illustrations of which are given.

From the literature Farrarini has gathered a score of cases in which fibromas, myxomas, lipomas, sarcomas, and endotheliomas have definitely arisen in the constitutive elements of the vascular sheaths. Farrarini accepts the characteristics of these tumors described by Keynaul. Tumors of the vascular sheaths are characterized by their anatomical sit in region occupied by a large vascular bundle.

They are fixed when the vascular bundle has a strong sheath, as is usually the case but when, as in the neck, the sheath is delicate, they are somewhat mobile. These tumors frequently possess prolongations which then occur along the axis of the vascular bundle. Usually the vessels are not displaced and the arterial pulsations are felt over the surface of the tumor or transmitted through it. Circulatory disturbances are frequent and occur early. None of these signs are pathognomonic and definite diagnosis can hence only be made when at operation it is found necessary to incise the common vascular sheath in order to reach the tumor. In such cases it is usually be found that the point of origin of the tumor is from the individual sheath of one of the vessels lying within the common sheath.

PIETRO FARRARINI

Wetting Cold Gangren Does Vascular Paralysis (Gefassparalyse Kältegangrän) Zentralbl. f. Chir. 9 1 1 593

By Zentralbl. f. d. ges. Chir. I. Grenzgeb.

The author had occasion to observe a number of cases of gangrene of the toes due to freezing during the Balkan war. Etiologically the most important factor in the production is prolonged exposure to cold and lowered resistance of the tissues, due to general and local influences, such as insufficient food, dysentery, cholera, and neglect of the feet. Although most of the cases developed immediately nevertheless there were cases which did not develop until six to ten days after the onset of an enteritis or dysentery. He does not believe the gangrene is due to thrombosis, but to vascular changes following prolonged exposure to cold in weakened individuals. As proof of this contention the author states that as soon as the general conditions, especially nutrition, were improved, the number of gangrene cases dropped considerably. After detailed discussion of the clinical phenomena he concludes that the important factor of the disease is the vascular paresis due to injury of the nerve supply of the vascular structures leading to thrombosis. In regard to treatment he advises to act conservatively. Further observations along these lines will be detailed later in an extensive monograph. KNOTT.

Neuboth Experimental Ligation of the Portal Vein; Its Application to the Treatment of Suppurative Pyelophlebitis. Surg. Gynec. & Obst. 9 1, xvi, 431. By Surg., Gynec. & Obst.

The author attributes the belief that there is no surgery of the portal vein to the fact that ligation of

this vein in animal experiments has regularly led to death in a very short time. This was first demonstrated by Ore in 1856 and has been repeated by Schiff, Claude Bernard and others. Death in this experiment has been attributed to different causes. Claude Bernard thought it was due to an acute anemia, and Schiff to cessation of liver function. The author cites evidence that neither of these views is the correct one, and from the symptoms and post-mortem examination of animals in which the vein was ligated, the conclusion was reached that death (which always took place in fifty to ninety minutes after the ligation) was due to shock. Solowiewski is credited with demonstrating that the portal vein could be entirely occluded, if at successive operations the branches were ligated singly and the author describes experiments which confirm this work. It was also demonstrated that successful ligation could be accomplished by gradual occlusion at successive operations. The collateral circulation in each case developed very quickly mainly in the gastro-hepatic omentum and such collateral circulation, being hepatopetal, preserves the liver function.

The article is concluded by some general remarks on the practical application of this knowledge to the treatment of suppurative pyelophlebitis. Case reports are quoted showing that complete occlusion of the portal vein in man is at times compatible with good health. The great danger of suppurative pyelophlebitis, which is almost universally a fatal disease is attributed to extension of the infection into the liver. This would be prevented by portal vein ligation and the author suggests such a procedure as the treatment. As to whether the ligation should be done at once or in successive stages, the author is inclined to believe that in at least those cases which are most likely to come to operation, that is, those having existed for some time, the collateral circulation is perhaps well enough established to permit complete ligation. Even in those in which the thrombotic process has extended above the highest accessible surgical level, the author suggests the possibility of benefit following ligation through the thrombus wing to the fact that such would at least greatly diminish the area of the source of infection. Omentopexy should be combined with the ligation for the reason that it offers an additional possibility of collateral circulation.

BARNETT BROOKS

Joachimsthal The Etiology and Preventive Incision of Elephantiasis (Über die Ursache und Schutzmaßnahme der Elephantiasis) Klin. Wochenschr. 23 No. 40.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Elephantiasis (arabum) is found endemically on the Japanese coast and on many of the islands. It also occurs endemically on the western coast of Shikoku. Each case develops after repeated attacks of erysipelas. The geographical distribution of elephantiasis does not coincide with that of filariasis.

I. J. pan. Among elephantiasis patients the author was able to demonstrate only twenty-seven per cent filaria carriers. Filariasis is an accidental complication of elephantiasis, and may predispose to the latter disease. Among 4,500 elephantiasis patients, the author regularly found a strain of streptococci which are not pathogenic to guinea-pigs and rabbits but which after subcutaneous inoculation into the human regularly produced typical attack of erysipelas within six to twenty hours. Agglutination of these streptococci occurred with 500 diluted serum of elephantiasis patients. They are found only in the peripheral blood between the second and sixth day after the attack and are never found in the arterial or venous blood during the quiescent stage. A week after the attack they cannot be found at all. They produce first a dermatitis, lymphangitis, later lymph stasis with edema, and after repeated infection thickening of the skin.

The author prepared vaccine for preventive inoculation by exposing pure culture to 53° C. two different occasions for an hour and gave the million cocci at a dose. The inoculation was repeated three to six times at ten day intervals. Immediately after inoculation the phagocytic action of the leucocyte is reduced, but is increased two to three times after ten days. As rule, the action is proportional to the number of inoculations. The author considers three inoculations sufficient. Immunity was still present in sixty-three per cent of the cases after one year and in twenty-six per cent after three years. The erysipelas attacks ceased, thickening of the skin did not occur and retrogression of the already thickened skin set in. An immune serum of treated goat cured all symptoms of the attack within two to six hours, using 0.5 cc. of an injection. ORLAND.

Ewing. Endotheliomas of Lymph Nodes. *J Med Research*, 1913, xxviii. By Surg., Gynec. & Obst.

Ewing states that for many years he has been encountering tumors of lymph nodes in subjects presenting no other demonstrable tumor and with whom the subsequent course indicated that no other tumor existed, and in which the structure strongly suggested endothelial origin. The observation of several tumors of this class within the past year which presented early states and transitional forms between those previously observed has led him to the conclusion that endotheliomas of lymph nodes is a rather common neoplasm that it is usually classed with lymphosarcoma on the one hand and with secondary carcinomas on the other that the process differs in many histological, anatomical and clinical features from secondary carcinoma, and that it is usually possible to recognize these features with considerable or complete certainty.

The author reports eleven cases in support of his contention. These comprise clinically great variety of diagnoses, and upon study of them he

bases the following conclusions. Extreme grades of endothelial hyperplasia are not infrequently associated with and dependent upon granulomatous infection of lymph nodes, and these cases demonstrate the capacity of endothelium to respond to inflammatory irritation with extensive proliferation. In some cases it is difficult or impossible to determine whether this overgrowth is simply inflammatory or independent of the irritant, autonomic, and neoplastic. The long continued effects of a granulomatous infection may lead to neoplastic growth of lymphatic endothelium, and in the course of granulomatous infection of lymph nodes, after repeated operations, the granulomatous element may be eliminated and the disease progress as a form of neoplasm. Granulomatous infection of lymph nodes may very early give rise to extensive overgrowth of endothelium of distinctly anaplastic type, and with local aggressive properties.

Such malignant endotheliomas may arise without any evidence of an associated granuloma. It is possible to conceive that an original infectious focus may be overgrown and obscured by the neoplastic cells. A definite evidence of such an event has been secured but it has been shown that one node of chain may exhibit purely neoplastic overgrowth.

Like others show chiefly granuloma. Certain endotheliomas of lymph nodes designated as diffuse, pleomorphic, perivascular or alveolar are probably derived from the endothelium of lymph sinuses and lymph cords. Certain primary tumors of lymph nodes, with or without associated granuloma, are probably derived from the reticulum cells of the follicles. These tumors resemble lymphosarcomas with large cells, and may be distinguished from tumors of small lymphocytes. Endothelioma of lymph nodes differs from other neoplasms in several particulars, and may be regarded as a disease and growth although essentially neoplastic.

OSCAR D. BAYLEY

POISONS

Strebel. The Micrococcus Tetragenus as Cause of Bacteremia in the Human (*Der Micrococcus tetragenus als Erreger von Bakteriämie beim Menschen*). *Beit. Klin. Chir.* 10, 3, 1913, 713. By Zentralbl. f. d. ges. Chir. 1, 1913, 949.

After short review of literature Rich shows that this organism not only acts in symbiosis with other bacteria, but may also alone cause disease, even sepsis, the author describes case of tetragenus sepsis with rare phenomena. A 26 year old male patient with an old empyema fistula was suddenly taken ill with general symptoms, and swelling of several joints. The joint involvement was transient, migrating quickly from one joint to another and also involving the thorax. Hemorrhagic extravasations occurred in the face and skin of the body. Fever up to 39° was present, with marked remissions. After course of four weeks, gradual recovery set in, nephritis, however persisting.

Blood cultures made on three different occasions showed a pure culture of *micrococcus tetragenous*. Stroebe is of the same opinion as Illeus that the organism is a pathogenic sarcina. The primary focus probably was in the empyema sac. Although it was impossible to cultivate a pure culture from the fistula.

FRANCE.

Thiers Treatment of Acute Surgical Infections with Rhythmical Hyperemia (Behandlung akuter chirurgischer Infektionen mit rhythmischer Stauung). *Deutscher chir. Kong.* 93.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

On physiological grounds Thiers recommends in acute inflammations, an interrupted passive hyperemia for 3 ml. to be followed by equal periods of rest, instead of the continuous hyperemia, recommended by Bier for the greater part of the day. This rhythmical hyperemia is made with an apparatus patterned after the Perthes continuous hyperemia apparatus. With this a desired rhythm can be attained. The method has the following advantages over Bier's rhythmical application may be applied for several days without long interruptions. With an intensive, long-continued hyperemia the edema is not strong enough to interfere with the hyperemia. The extremity always remains warm. Obviously the endothelial cells of the capillaries are spared, as they always come in contact with fresh blood, therefore they are more equal to the task of blocking the toxins. There is no stauungsieber which is often observed after loosening the binder.

Rhythmical hyperemia may also be used in patients with sensory disturbances, and a small children it may be used for several days. The method was of good service in a series of cases of acute inflammations.

SURGICAL THERAPEUTICS

Verschöts The Treatment of Septic Processes by the Administration of Alkalies (Behandlung septischer Prozesse durch Darreichung von Alkalien). *Deutscher chir. Kong.* 93.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The administration of alkalies in septic processes to combat the body acids liberated, and on the basis of their physiological action, was undertaken good many years ago in the surgical clinic of Gebelein at Tübingen. They were given in large doses in all pus cases, 0.20 gm. to adults and 5 gm. to children. To prove the clinical observations and the theory promulgated, by Ehrlich, as far back as 890 (that the bactericidal power of the blood is dependent on its salts) the author acidified the blood of guinea pigs with 50 cc. of a one tenth hydrochloric acid solution and then injected a quantity of ricin. By this method it was shown that the acidified blood was not able to fix the same quantity of poison as the normal blood. If the acidity was neutralized with alkalies, the animals remained alive. The

favorable action is to be attributed (1) to their catalytic action (2) to their retention of water in the tissues (3) to their action upon the kidneys, causing an increased secretion (4) by causing profuse glandular secretion, thus increasing the appetite (5) to their raising of the blood pressure.

Von Brunn On the Value of Peristaltin in the After Treatment of Laparotomy Patients (Über den Wert des Peristaltins für die Nachbehandlung Laparotomierter). *Zentralbl. f. Chir.* 93, 1.
43 By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Peristaltin is made from the bark of *rhamnus purshiana* and produces rapid and painless resumption of peristalsis after abdominal operations and is especially recommended as a prophylactic following such operations. The dose is 15 gm. subcutaneously to be repeated if necessary in ten to twelve hours.

KING.

Magnus The Treatment of Wounds with Sugar (Wundbehandlung mit Zucker). *München. med. Wochenschr.* 93, 15, 406.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

According to the experiments of the author sugar as such or in concentrated solution has shown itself to be bactericidal and preventive of putrefaction in the treatment of infected wounds. The antiseptic power is due especially to the peculiarity of the sugar in abstracting water from the tissues. As a result of this bathing with serum, the wound cleans itself of micro-organisms and deposits of fibrin and is placed under more favorable conditions for healing. This is shown by healthy granulations and the rapid formation of epithelium. Tuberculous inflammations cannot be treated by this method.

GERMANY.

1003 Report on the Use of Pituitary Extract in Surgical Shock. *Annals of S. & G.* 93, 3, 417, 750.
By Surg. Gynec. & Obst.

After briefly describing the symptoms of shock the author states that he has used pituitrin in about eight hundred abdominal operations. He states that as the essential factor in producing shock is the collection of blood in the splanchnic vessels with a resulting drop in blood pressure, a drug should be used to combat it which will raise the blood pressure. Pituitrin produces marked effect on the blood pressure in patients who have undergone operation. He gives chart of a typical case which shows that the blood pressure at the beginning of operation was 5 which dropped to 30 a short time after the abdomen was opened, where it remained almost throughout the operation. His procedure is as follows: An injectio of pituitrin is given before the patient leaves the operating table, usually before the abdominal wound is closed or 5 minims is the usual dose. This is repeated every three hours for four doses if necessary. In the case quoted above 15 minims were injected before the abdomen was closed and the blood pressure increased to 85 and then to

90 within short time. When this point was reached another injection of miltams was given and 45 minutes later the blood pressure registered 10. The pulse had dropped in proportion to the increase in blood pressure. No evidence of shock was noticed although the operation was somewhat prolonged owing to the amount of work done.

In this series of cases no instance occurred in which there was a symptom of shock. In two or three cases, however, condition simulating heart exhaustion was noted. Whether or not this apparent exhaustion was due to over-stimulation is a question. Many other factors may have been responsible. These symptoms were only transient the patient responding to stimulation after the administration of pituitrin was discontinued and in each instance the patient made a successful recovery. Another result as noted in most of the cases is appears that pituitrin has very marked effect on the muscular coat of the intestine causing an increase in peristalsis and facilitating the passage of gas. This result has also been noted by other investigators.

EDWARD L. COE, M.D.

SURGICAL ANATOMY

Hewert: Some Observations on the Anatomy of the Inguinal Region with Special Reference to the Absence of the Conjoined Tendon.
Surg. Gynec. & Obs. 9: 3, 1915.

By Surg. Gynec. & Obs.

In the prevailing textbooks on anatomy the conjoined tendon is described but not accorded much prominence. Here and there it is stated that the tendon may be absent, which creates the impression that such anomaly is rare and of no practical importance. The thorax claims that absence or maldevelopment of the conjoined tendon is more common than has been supposed and that the matter is of practical importance especially in its bearing on the technique of hernia operations.

The condition is undoubtedly congenital and the tendon may be either thin and poorly defined, or it may be absent altogether. It is more common in the case. In this event the fibers of the internal oblique and transversalis pass directly inward toward the edge of the rectus without forming any tendinous union, and are inserted high up in its sheath. The muscles and fascia of this region are also often found attenuated and poorly developed. A triangle is formed with its apex at the terminal ring and its sides formed by the internal oblique and transversalis muscles and Poupart's ligament respectively. The base is formed by the edge of the rectus. The floor of this area is formed by the transversalis fascia only, which makes it very dark spot, and predisposes to the formation of direct hernia. The thorax has repeatedly demonstrated the condition clinically before verification by operation. A typical Bassini operation is impossible in such cases for the reason that there is no conjoined tendon. In cases of high insertion of the internal

oblique and transversalis, these muscles cannot be sutured to Poupart's ligament without creating too much tension. The operation which best meets the indications in the great majority of cases is the Andrews operation. The Bloodgood operation may be employed in extreme cases.

ELECTROLOGY

Sticker: The Employment of Radium in Surgery (Die Anwendung des Radiums in der Chirurgie).
Arch. f. physikal. Med. u. nat. Techn. 9: 3, 1915.
By Zentralbl. f. d. ges. Chir. u. L. Gerngach.

The action of radium differs from that of the Roentgen rays. Weak preparations of radium applied only for short time, cause acute inflammatory irritation of the tissues. In tumors this irritation affects the connective tissues first, but after some time the tumor cells are visibly injured. Stronger preparations applied over a prolonged period cause distinct degeneration of the tumor cells almost from the start. Operable neoplasms were kept in an operable condition in cases in which the operation had to be postponed. Many inoperable cases were converted into operable ones. Advanced inoperable tumors were temporarily improved by partially preventing their further growth. In cases of carcinoma of mucous surfaces radium carbonyme preparations were effective; also, the combination of radium-ray with unipolar electricity was efficacious. Superficial skin carcinomata are especially susceptible to radium therapy. Nervi, papillomata, lipomata, erythematodes were painlessly removed, leaving small cicatrices. Multiple lymphomata disappeared rapidly when subjected to this treatment.

CHAMBERLAIN

Béclère and Biérle: The Use of Radiography in Surgical Affections of the Stomach and Intestines (L'exploration radiographique dans les affections chirurgicales de l'estomac et de l'intestin).
J. Cong. d. l'Un. Fran. d. Chir. 9: Oct.

By Journal de Chirurgie

The use of radiography as a diagnostic and in surgical affections of the stomach and intestines has made remarkable progress during the last few years. It is indispensable in order to obtain an outline of the shape of intra-abdominal segments of the digestive tube to make them more transparent or more opaque. Gaseous distention of the stomach makes this organ transparent; opaque substances are employed such as salts of bismuth. Large quantities of these salts must be taken (for meal 30 grams, for sa. crassa 60 grams). The examination must be made in the upright posture. There are several other valuable methods—those of bismuth and lycopodium (L. Laven and Barret, of doubly gelatinized capsules of Kistler, of Schwarz fibrodermic capsules). For enemas, gummy ester is the vehicle for bismuth bari in sulphate, etc. Oil can also be used as vehicle.

Radioscopy and radiography may be used con-

jointly. Stereoscopic radiography is of especial value for the large intestines. Radiography in series presents great advantages, and the polygrams recommended by Levy Dorn (successive sittings every five seconds) give valuable information. The shade of the internal outline of the digestive cavity furnishes information concerning the topography, morphology and motility of the different segments of the digestive tract.

Radiology of the stomach. The normal image of the stomach does not correspond to that given in text-books of anatomy and it is important that one should know the different forms it may assume as well as how to measure its height and determine the location of the pylorus, to appreciate the degree of gastric distention. Radiographical examination reveals topographical anomalies of the stomach, displacements of the stomach secondary to hypertrophy or other pathological conditions of neighboring organs.

Radiography shows morphological anomalies of the stomach, either in dimensions (lengthened, dilated, or retracted stomach) or in shape (lacunar, bilocular stomach, diverticular stomach). Radioscopic examination enables one to study disturbances of gastric tonicity (gastric contractility (peristaltic, atonic, hypertonic) or of fatigue antiperistaltic, circular spasms, disturbances in evacuation, pyloric insufficiency).

Radiographic examination gives valuable diagnostic information in simple ulcer of the stomach and in cancer of the stomach. Every patient in whom a cancer of the stomach is suspected should be submitted to examination by the X-rays. Pyloric stenosis is perfectly revealed by radiology.

Radiology of the intestines. Radiography furnishes valuable information in the following pathological duodenal states: displacement, ptosis, ulceration, spasm, and especially in stenosis. The principal signs of duodenal stenosis are: abnormal fasting distention on the side proximal to the stenosis and visible persisting duodenal peristalsis while the distention lasts. The duodenum has the shape of a sausage, the length of which is determined by the seat of the stenosis. The first radiologic observations upon the jejunum and ileum were those of Rieder, Herz, and Schwarz, etc. When the intestine is diseased, radiology is of service to diagnose ptosis, atony and stenosis, especially of the ileum. Stenosis reveals itself by a syndrome composed of three signs: abnormal stagnation of the contents of the ileum, abnormal widening of the gut lumen, and the typical aspect of hydrogaseous collections, making the intestinal loops look like the pipes of an organ. This aspect of organ pipes, filled at different levels with perpetually unstable gas and liquids, is characteristic. For the large intestines, enemata are recommended. After injections, the colon dilates and accumulation becomes evident giving an image resembling string of dried figs. The examination of the caecum, 6 hours after the bismuth meal, with the patient successively in the right and left

lateral decubitus, allows us to verify the existence of the following conditions: caecum mobile, abnormal dilatation of the caecum, ileo-caecal tuberculosis. The radiograph shows the location of the appendix and the possible presence in its interior of fecal concretions and of foreign bodies.

After gastro-enterostomy, one should not neglect the use of X-rays. It gives precise information, especially concerning the function of the pylorus.

HARTMAN believes the X-ray plates may show the typical picture of a non-existing stenosis. The bismuth enema, in particular, may provoke spasms and may become fragmented by gases and give upon the photographic plate the image of strictures. Upon the screen, one must follow the progression of the bismuth, make repeated examinations, and diagnose stenosis only when tenderness is present at the point of accumulation and immobilization of the bismuth.

We must avoid errors of interpretation with the X-rays. We must not make other methods of clinical investigation. The radiographic image of violent gastric peristalsis is easily interpreted in favor of pyloric stenosis. Tubes can give the same picture, less the gastric dilatation. X-rays must not increase the number of tubetic patients operated upon for so-called stomacal conditions. In certain cases clinical examination may help us to verify a diagnosis of suspected ulcer where the radiographic image taken with patient in the upright posture appears normal. If however we examine our patient in right lateral position or in a head low position, or if we increase the amount of bismuth porridge to about 600 grams, we will easily discover the signs of an ulcer. This is also true of cancer in the upper portion of the stomach. The stomach should be absolutely empty previous to the ingestion of bismuth porridge.

There are always some patients whose stomachs show in the radiograph a more or less complete biloculation, and still at the time of operation one does not detect the slightest notch of the greater curvature. These cases of spasmodic biloculation of the stomach are a frequent source of error.

Passing to the large intestine, the radiographic image of which is certainly more difficult to interpret than that of the stomach, DR. QUERVAIN thinks we must not attach too much importance to bismuth enemata, especially as concerns the diagnosis of the shape and position of the intestine. The bismuth enema creates absolutely abnormal conditions, and the images which result therefrom are caricatures of the large intestine. It shows a sketch representing the large intestine of the same patient—one after the ingestion of the bismuth porridge, the other after the bismuth enema. In certain cases, radiographic examination alone will furnish a precise diagnosis more exact than all the other methods combined. There are other cases, and they form the large majority in which the diagnosis can be established only by considering all the clinical data.

J. DUBOIS

GYNECOLOGY

UTERUS

Kjerfveard Investigations of the Endometrium: the Histological Changes Incident to Benign Affections of the Endometrium Corporis (Endometria Underliggende de Histologiske Forandringer ved benigne Bøielse af endometrium corporis). Kjöbenhavn 03

By Zentralbl d gyn. Geburt. d Gynäkol.

The author investigated thoroughly the endometrium of patients. The cyclic changes are essentially the same as described by Hirschmann and Adler. The author divides the pathological conditions into following groups: (1) Endometritis chronica et subchronica (2) hypertrophia irregularis glandularis (3) subultra mucosa metast. (4) hyperplasia gland simplex (5) polypus like. It has considerable significance to the hypertrophia irregularis glandularis and attempts to differentiate it from the other forms clearly as is possible. In this group the glands, which normally belong to certain periods of the cycle, appear in various shapes side by side likewise gland projections are found. The etiological fact of this form is not inflammation. The cause must be looked for in other organs especially the ovaries. These patients present fairly constant clinical phenomena: hemorrhages are irregular, prolonged, recur usually immediately after curettage even after repeated curettage or after period of menarche. The recognition of these changes indicates treatment other than curettage. This disease occurs most frequently between the ages of 35 and 45. On the strength of the gland projections no diagnosis can be made as these occur also associated with myomas and in older women.

The sub-ultra mucosa metastasis is characterized by the fact that the premenstrual changes commence abnormally late (5-7 days or more after the onset of menstruation) so that premenstrual forms of glands are found alongside of post-menstrual changes. These patients always have more or less prolonged irregular bleeding. Here the etiological factor more probably lies in the ovaries rather than in the mucosa. After curettage, several patients had no recurrence whereas in others abnormal bleeding soon occurred again. The author puts those cases in which the mucosa is regular and undergoes the normal cyclic changes but in which the abnormality consists of quantitative differences in the group of hyperplasia gland simplex. The borderline between the normal pathological tissue is difficultly placed. The presence of invaginations is usually artificial. If the mucous membrane of freshly extirpated uterus is curetted over one-half of the organ and the other

half examined with its attached muscular layer then the invaginations are found only in the curetted portion of the mucosa. Actual papillae are found but rarely in benign curettings.

Polyps are recognized best macroscopically as the only round surface corresponds to the pedicle. Microscopically one can detect occasionally the antecedents of polyps. The endometritis chronica and subchronica is best recognized by the presence of plasma cells, some of which may occur without any other signs of inflammation. Some cases can be recognized by the presence of round cell infiltration without any plasma cells. The normal follicle like groups of cells lying in the deeper mucous membrane must not be confused with pathological round cell infiltration. In contradistinction, the pathological infiltrations are more diffuse. The gland cells lying between the lymphocytes. The increase of spindle and connective tissue cells is a less important sign of inflammation on account of the variability of the individual quantity and because they may be increased from other causes as in atrophy. The thesis closes with large number of clinical histories accompanied with carefully detailed microscopic description of the mucous membrane and the necessary proof of the contentious raised. Finally there are number of drawings and micro-photographs illustrating the pathological changes discussed. GANNETT.

Sudakoff The Blood Vessels of the Uterus during the Menopause (Die Blutgefäße des Uterus in der Menopause). J. Geburt. gyn. heil. St. Petersburg, 1913, xxviii, 349.

By Zentralbl d gyn. Geburt. d Gynäkol.

Sudakoff examined the uteri of fifteen women between the ages of 4 and 80 who died at least one year after the onset of the menopause of diseases in no direct relation to the sexual organs. The most striking picture is the dilated lumen of blood vessels which increases with the age of the woman. This is due to the gradual disappearance of the muscular elements of the vessel. In the latter only single fibers remain the others have gradually been replaced by elastic and connective tissue. The circular and longitudinal fibers encroach upon the lumen like twisted elevations, and serve to keep it closed. The endothelium and intima are fairly well preserved. Calcification of the vessel wall is relatively rare. The author concurs with others that the sclerosis of the uterine vessels is not dependent on the general arterial sclerosis, but is dependent upon pregnancy and its results. The vessels are frequently so placed that one appears to be pushed into the lumen of the other. Goodall explains this phenomenon

even as due to the formation of new blood vessels in the old ones after a pregnancy. In young uterine the old vessel wall may disappear entirely and the new vessel alone remains whereas in older women the degeneration of the old vessel wall occurs only partially.

CRESSMAN

Rawls. Cancer of the Uterus. Med Rec. 9. 3. 1904, 893. By Surg., Gynec. & Obst.

After some general remarks, cancer of the thorax discusses the treatment of uterine cancer in particular. The study of cancer has become an exact experimental science and a specific will be found even before its etiology is understood. He reviews the statistics from many countries showing a general increase in cancer mortality. About 4 per cent of gynecological cases have carcinoma. He claims that childbearing as a whole does not seem to have the direct etiological bearing which is ascribed to it. He quotes the census of 1900 to substantiate his claims, which showed that the deaths from all causes in women between the ages of 45 and 54 show ratio between the married and single of 7 to 1 and from cancer 175 to 1. He makes the following statements concerning the treatment: There is no specific and the only means of combating this widespread disease is early diagnosis and immediate operation. Cancer at some time in its development is local condition and radical removal will result in a cure. But its early symptoms are atypical and many physical, chemical and serological tests have been proposed for an early and correct diagnosis as yet unreliable. The subjective and objective symptoms must still be depended upon for an early diagnosis. He then discusses the three cardinal symptoms of cancer (hemorrhage, pain, foul leucorrhoea) and concludes that after all, the only real means of making an early diagnosis is by microscopic examination of masses removed by curettage or excision.

The best operative procedure for cancer is still in dispute. The extended abdominal operation as done by Wertheim or the extended vaginal operation as performed by Schauta are now the operations which in the greatest number of cases give the best absolute accomplishments. He cites European and American statistics of the operability and cures. In conclusion he refers to Winter's efforts to get cancer cases at an early stage by enlightening physicians, midwives and the general public through a publicity campaign. He advocates the earnest adoption of this plan for the United States.

HENRY SCHMIDT

Peterson. The Present Status of the Radical Abdominal Operation for Cancer of the Uterus. Surg. Gynec. & Obst., 9. 3. xvi, 56. By Surg., Gynec. & Obst.

The author believes that the unpopularity among American surgeons of the radical abdominal operation for cancer of the uterus is due to the high primary mortality. If all reported and unreported

cases could be collected, a fair estimate of the primary mortality would be between twenty and fifty per cent. The author recognizes that two conditions must be brought about before the operation under discussion will be generally adopted. First the profession and laity must be so educated regarding uterine cancer that the disease will be recognized earlier and patients come to the surgeon when local and general conditions combine in bringing about a low primary mortality. Second for this particular operation, true specialization must result, so that the occasional operator will be eliminated.

The backwardness of the medical profession in inaugurating a campaign against carcinoma is explained by the firmly fixed idea that cancer is hopeless as a cure. The author makes a strong plea for an organized campaign against cancer similar to that being carried on against tuberculosis. He suggests that the profession must be convinced that cancer is a local disease capable of cure if taken in time and radically removed. Early diagnosis and radical removal offer the solution of the problem. In Germany where education in regard to cancer has been carried on, one out of every four women with cancer of the cervix, seeking relief can be subjected to the radical abdominal operation, and are free from the disease at the expiration of five years.

Theilhaber. Non-Surgical Treatment of Carcinoma (Zur Frage von der Operationslosen Behandlung des Carcinoms). Berl. Klin. Wochenschr. 9. 3. 1, 245. By Zahnarzt (d. ges. Gynäk. u. Geburtsh.) u. d. Gynäk. b.

The author believes that the non-surgical treatment of carcinoma is not benefited by any efforts which tend to destroy all carcinomatous cells, but by the limitation of the curative efforts of nature. Nature endeavors to take corrective measures against all diseases. Spontaneous healing of carcinoma occurs much more frequently than is generally accepted. This is not obtained by cell atrophy or cell death as in myomata, but the epithelium not infrequently transgresses beyond its limits into the connective tissue especially if its power to proliferate beneath the epithelial layers is weakened. Ordinarily this invasion of epithelium affects the connective tissue like the irritation of a foreign body and in defense there occurs a reaction to the localized hyperemia expressed by hyperleucocytosis and an increase of the proliferating power of the connective tissue cells. If this proliferating power is extensively diminished and if the vessels are contracted and not capable of dilatation then these defensive measures remain absent, the epithelium penetrates without limit and a carcinoma forms. On careful examination small nests of carcinomatous cells are found in the enlarged regional lymph nodes in the neighborhood of the tumor which are evidently not in a state of proliferation (slumbering carcinoma cells). The author refers to the fact that the lymph nodes frequently heal spontaneously especially after extirpation of the primary

menopause may be expected as after the natural one. In cases of metropathic hemorrhage the results are generally more prompt and striking. In older individuals it is advisable to continue the treatment after amenorrhea has occurred in order to make the effect permanent. In young individuals it may be sufficient to produce temporary oligomenorrhea, expecting that later normal menstruation may be re-established.

Pfahler emphasizes the following points in the technique. It is necessary that the operator be an experienced roentgenologist; the exciting instrument give a uniform current of high voltage and the tube be one that will keep a constant high vacuum of 7 to 8 Becquerel; the distance from the target of the tube to the skin of the patient is 3 inches. The rays are to be applied over the ovaries and tumor if one be present. They should be confined to the area treated as much as possible and much care exercised that no burn is produced. The frequency of application will depend upon the patient and skill of the operator. The most favorable time for treatment is just after a period or at a time corresponding to it. A little less than 100 doses (9 times) should be given and repeated at a corresponding time the succeeding month. From one to six such series is usually necessary. By the use of filters and a radiometer, burns of the skin are more successfully avoided. In concluding he says that it is the method of choice in the control of hemorrhage in those at or near the menopause when cancer can be eliminated as a possibility, but is not the method of choice in young people unless there be contra-indications to operation. *V. SPOON HENRY*

Fuchs. X-ray Therapy or Vaporization in the Treatment of Hemorrhagic Metropathies (Röntgentherapie oder Vaporisation bei Hämorrhagischen Metropathien). *Monatsschrift f. Geburtsh.* 9, 3, 1917, 406.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

The author reports his experience with the vaporization method obtained in 7 cases of hemorrhagic metropathies during the last nine years. He employs exclusively the vaporization of the fundus cavity the principal source of the bleeding, after thorough coagulation of the mucosa and coagulation of all bleeding. After the introduction of an insulator tube for the special protection of the uterus, steam is introduced at a temperature of 5° to 10° for from 30 to, at most, 60 seconds. The method is especially adapted to premenstrual bleeding, excepting severe cases of adenomyosis, to all hypoplastic and senile uteri to all myomata. It is directly contra-indicated in all uterine inflammations of the endometrium, as well as in all inflammatory conditions in the neighborhood of the uterus. In 9 per cent permanent cures were obtained, in 47.6 per cent permanent amenorrhea resulted, in 44.4 per cent an oligomenorrhea, approaching the normal menstruation only in 8 per cent of cases was there complete failure. Analogous

to the clinical results were the anatomical findings obtained at a later exploration of the uterine cavity with sounds. On the strength of his good results the author is now willing to decide in favor of X-ray treatment, as the latter is much more time-consuming and usually results in an injury to the function of the ovary. He highly advocates his more conservative method as the method of choice in all hemorrhagic metropathies in older as well as younger women. *SCHNEIDER*

Küstner. A Perforation of the Fundus Uteri (Ein am Fundus perforierter Uterus mit Adhärenz). *Deutsche Gesellschaft f. Gynäk. Halle, 9, 3, May*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

The patient was brought into the clinic with marked uterine hemorrhage, following an attempt at abortion. Residual portions of placenta were manually removed, followed by an alcohol douche, and when the curettage was being introduced it stopped in great distance without meeting with resistance. Owing to the serious condition of the patient an immediate laparotomy was performed, revealing a widespread peritonitis, several copious clots of bloody brown exudate escaping. The uterus was the size of a goose-egg and showed perforation at the fundus. The edges of the perforation had a old appearance, and it was certain that this had been done before the patient entered the clinic. In spite of complete hysterectomy and drainage the patient died within twelve hours.

Sigwart. Removal of Danger of Peritonitis by the Operative Treatment of Ruptured Uterus (Die Ausschaltung der Peritonitisegefahr bei der operativen Therapie der Uterusruptur). *Deutsche Gesellschaft f. Gynäk. Halle, 9, 3, May*

By Berg. Gynec. u. Obst.

In incomplete ruptures with little damage to the perimetrium the total extirpation per vaginam is indicated. Where extensive injury or herniation is found, laparotomy is indicated. Exact double suture of peritoneal defects is recommended with no drainage. Sigwart reports twelve cases, a complete six incomplete ruptures. Three vaginal, eight abdominal total extirpations and one simple closure of the defect were performed. Three non-fatal cases died at operation and the other nine cases recovered without signs of peritonitis.

J. B. MILLER

ADnexAL AND PERIUTERINE CONDITIONS

Frankl. Ovarian Functions in Basedow's Disease (Über die Ovarialfunktion bei Morbus Basedowi). *Deutsche Gesellschaft f. Gynäk. Halle, 10, 3, May*
By Berg. Gynec. u. Obst.

Disturbances of ovarian function predispose to Basedow's especially diminished ovarian function as in puberty, pregnancy and lactation. The menopause must also be included. Of forty cases, eight began after 40 years, 21 between 30 and

52 years, and five in the menopause. In the severe cases amenorrhea was the rule though the type of menses gave no sure prognosis. Basedow's disease is not caused by damage to the ovaries. On the theory that ovary and thyroid work oppositely on the sympathetic, Frankl's ovarian tablets in three cases with improvement of tachycardia and sweating.

J. R. MIZNER

Whitehouse: The Autoplastic Ovarian Graft and Its Clinical Value. *Clin J.* 9, 3, 1914, 97.
By Surg. Gynec. & Obst.

In this short discussion of ovarian transplantation, Whitehouse reports one case in which the patient was menstruating regularly one year after operation. He believes that much greater success will attend the use of small portions of tissue, as is done in the case of the thyroid and other glandular structures. The vitality of the tissue is much more likely to be maintained if seedling grafts be made. As regards the site of implantation he prefers the rectus muscle and subperitoneal tissue. In conclusion he regards these points as essential to the success of the operation.

1. Absolute asepticity and the avoidance of strong antiseptics which would destroy the vitality of the tissues. Pus in cases of chronic pyosalpinx and salpingo-oophoritis is usually sterile.

2. The employment of minit or seedling grafts.

3. The presence of good vascular supply in the tissue used as the bed for the graft. Muscle is especially satisfactory for the purpose.

4. The ovarian tissue should be left in contact with the body fluids within the peritoneal cavity until it is required for the purposes of the grafts. In the case here recorded the ovary was placed in Douglas' pouch until the time arrived for closure of the abdominal wound.

CAREY COLBERTSON

Regaud and Lacaze: The Conditions of Sterilization of the Ovary by X Rays (Ser les conditions de la stérilisation des ovaires par les rayons X). *Compt. rend. Académ. Sci. de Biologie.* 9, 1, 1914, 783.
By Journal de Chirurgie

Absolute sterilization of the ovary may it seems, be obtained by direct irradiation. It is only necessary that a sufficiently strong dosage be used. But there has been some discussion as to whether the same results could be accomplished by irradiation through the thickness of the abdominal wall. Several early experimenters have claimed that this is the case, but the authors doubt this because of the results of their experiments with rabbits and dogs.

In the rabbit the ovaries occupy a fixed and superficial position. If one uses very hard rays and a dose of 5 units of absolute sterilization is possible. (An aluminum plate of 4 millimeters thickness must be used as filter to avoid radio-dermatitis.) Of seven rabbits thus treated by the authors four remained sterile after fecundation although there was a late re-appearance of the symptoms of rut. The

ovaries of these rabbits contained only a few remaining normal folliculi.

In the bitch, the ovaries are more mobile and deeply situated. Here sterilization seems to be impossible since it is necessary to irradiate too large a surface and to use dosage which is so strong as to cause the death of the animal by lesions of the intestines.

For the same reason sterilization in women is impossible by irradiation through the abdominal wall. The authors consider that the few cases which have been published are not interpreted correctly.

THOMAS CRUTE

Bland Sutton: A Note on Typhoid Infection of Ovarian Cysts. *Universal M. Rev.* 9, 1, 1915, 155.

By Surg. Gynec. & Obst.

The importance of differentiating the B. typhosus from the B. coli and the B. paratyphosus is emphasized by the author as well as the necessity of culturing on special media and of employing the agglutination test. All of these methods were taken advantage of in determining the nature of the infection in cases here reported.

In the first case the patient had been treated one year previously for typhoid fever. The cyst was congested plum-colored and veiled in sheet of thin adherent omentum but showed no axial rotation on its pedicle. It contained fifty ounces of yellow purulent fluid free from odor. A pure culture of the B. typhosus was definitely proven.

In the second case the patient had had typhoid fever sixteen years previously and an ovarian cyst as opened and drained soon after, sinus persisting for nine months. The author's operation revealed an infected ovarian dermoid, the pus containing both B. typhosus and streptococci. The patient's blood gave a strong agglutination reaction though both urine and feces were negative.

In conclusion Bland Sutton shows that the majority of reported cysts infected by the B. typhosus have been of the dermoid type. The long duration of the infection as demonstrated by his second case is in all respects comparable to similar well recognized infections of the gall-bladder.

CAREY COLBERTSON.

Wright: Ovarian Cyst with Twisted Pedicle. *Varicized Med.* 9, 2, 1910.

By Surg. Gynec. & Obst.

Wright's case had never been pregnant, and her present trouble began one and one-half years ago with pain in the right iliac region, slight nausea, but no vomiting nor temperature. Her second attack occurred several months ago lasting five weeks. Appendicitis was the diagnosis in both attacks. The third attack was similar in all respects, except that it was accompanied by temperature of 100.4 and a pulse of 120. Operation for chronic appendicitis was advised. Laparotomy revealed a dermoid cyst and unilocular cyst of the right ovary with twisted pedicle. The dermoid was the size of an

tumor. This in all probability indicates a process of retro-metaplasia, a curative process for the metastatic invasion. In advanced cases the tendency to spontaneous healing by the primary tumor is slight because it only originated in places where the local described condition of lowered resistance exists in the connective tissue. In contradistinction to this the metastases usually grow in tissues with normal blood supply thus it is showing an increased tendency to spontaneous cure.

Nature's effort to cure a carcinoma consists in hyperemia hyperleucocytosis, an increase in the proliferative power of connective tissue. The opposite condition exists in myomatous tissue which grows as long as the uterus is rich in blood but ceases at menarche and menopause and a spontaneous cure by atrophy of the muscle fibers occurs after the menopause when the uterus becomes increasingly anemic. The author proposes to imitate nature's efforts in the treatment of cancer carcinoma. Hegar proposed irradiation in myomatous malignant tumors such attempts have also been made (though unknowingly) by the injection of Lanthanum crystals serum by bacterial toxins etc. The action of these measures is well the resulting cure of carcinoma after passing through erysipelas smallpox, and other febrile diseases depend on the production of local hyperemia and local ad general hyperleucocytosis. The action of other bloodless methods of treatment can be similarly explained as for instance antineoplastic Schmidt coils of W. under the action of X-rays of thermopneumatization and combination of high frequency currents diathermy and X-rays according to Miller.

Meldner: Marked Influence of Mesothorium on a Cervical Cancer (Widely Extensive Benignizing Effect on Portio Carcinoma durch Mesothorbestrahlung).
Thorp & Legner, 9 J. 57, 40.
By Zimmler, L. & von Gyssels, A. Gebartsh. & Gynäk.

The author refers to his former paper (in the 30th year of the *Charité Annalen*) in which he reports concerning sound obtaining mesothorium capsules for an inoperable terine carcinoma. At one end of the hard rubber sound is a capsule which contains the radio curie substance. The capsule is covered with rubber tissue and three thicknesses of gauze and is inserted through the vagina to the carcinomatous focus, where it is left for one or two hours. This procedure is repeated on ten to fourteen successive days. This equals one ray series. After an intermission of one to two weeks the second series is begun. Meldner reports a case which had been treated in this manner.

The patient, 74 years old, for a long time had severe genital hemorrhages. A examination was made November 9 which revealed inoperable carcinoma of the cervix presented a large ulcerated crater and tumor the size of a walnut was found in the left parametrium. The diagnosis of cancer was made clinically but not histologically.

Mesothorium treatment was applied for 10 days during November and for 7 days in December. An examination made in the latter part of December did not reveal a further improvement with mentioning. However the patient improved from day to day so that she felt perfectly well toward the end of January 9. The examination made at this time showed an apparent improvement. The tumor in the left parametrium as only the size of a bean, egg and smooth scars. Its raised borders are left in place of the former ulcerations of the cervix.

It was declared the former inoperable cancer to be an operable one. Diagnostic excisions from the cervix showed no tissue rich in cell and blood vessels which a few places resembled tracks of dead cancer cells. The patient has since remained perfectly free from any disturbance.

Werdnig: The Ca-tery in the Radical Treatment of Cancer of the Cervix. Surg. Gynec. & Obst., 9 J. 373, 379.
By Surg. Gynec. & Obst.

The galvano-ca-tery is preferred to the Paquin ca-tery because the former has been more effective in producing thoroughly burned black surface. A properly constructed dome-shaped galvano-ca-tery is most effective. In the palliative operation repeated applications should be made until the place thoroughly charred. In the radical operation the various steps are described. Briefly they are: (1) Thorough curettement of the diseased parts and cauterization until all oozing is controlled. (2) Portia entirely around the cervix as far as possible from the affected area by means of the cautery knife (roll heat). (3) Dissection carried up between bladder and uterus to peritoneum. Bladder protected from heated knife by retractor. (4) High amputation of the cervix performed with cautery knife and surface thoroughly charred by means of dome-shaped galvano-cautery opening into Douglas pouch. (5) Patient then prepared for laparotomy and free incision made between tubulus and pubes. Abdominal part of operation same as ordinary panhysterectomy except that after ligation of the uterine vessels and round ligaments with catgut, the parametria are burned through by means of Dooley electro-thermic clamps after protecting the surrounding parts with moist gauze and metal shields for clamps. The operation is bloodless case if the technique is perfect. Should there be slight bleeding, the burning may be repeated or a catgut ligature applied. Preliminary dissection of the uterus is a distinct advantage if the patient is in good condition, though it is not necessary as the uterus and bladder may be protected by putting the parametria on the stretch and pushing the bladder out of the way before applying the electro-thermic clamps. Removal of the regional lymphatics is not considered necessary or advisable on account of possible protective function they may have and the danger of implanting the cancer cells upon the surrounding healthy tissues.

RESULTS

Total number of cases operated by radical method	78
Operability	36%
Primary mortality — 4 cases	5 1%
Cases operated upon on or 6 years ago	30
By vaginal method	
By combined vaginal and abdominal method	8
Surviving five year limit — 8 cases	46%
Deaths after five years from recurrence — 4 cases	9%
after 6½ years from carcinoma of liver	
after 6 years, recurrence in retroperitoneal glands and spinal cord	
after 5 years, recurrence in lumbar glands	
after 5 years, etc. of recurrence not known	
Death from intercurrent disease after 6 years	
Living and well at present time — 3 cases	33 3/5%

Hirsch: The Etiology and Treatment of Uterine Hemorrhages (*Zur Lehre von der Ätiologie und Therapie der Uterinblutungen*). *Monatsschrift f. Geburtsh. u. Gynäk.* 9 3, XXIV, 470.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Hirsch first discusses the different attempts to explain essential uterine hemorrhages. He denies the etiological influence of acic uterine thickening of the uterine blood vessels, endometritis, localized hemophilia, or a abnormal state of the glands of internal secretion. He also disputes the ovarian origin based on an examination of his cases of ovarian tumors and also excludes functional disturbances of ovarian activity. It is of the same opinion as Theilhaber that uterine insufficiency exists i. e., an abnormal relation between the hyperemia, the cause of the hemorrhage and the contractibility of the uterus which stops the bleeding. On this account typical anatomical changes within the uterus such as a necrotic tissue hyperplasia are not always necessary or demonstrable. This theory explains the hemorrhages occurring in different uterine diseases, as metritis, atony or subinvolution. Excepting all the remedial measures correcting ovarian conditions all therapeutic agents used so far attempt to arrest hemorrhage by exciting or increasing uterine contractions. Hirsch used injections of ergotin into the uterine muscles through the cervical walls in 200 cases. The technique is similar to the one used for local anesthesia of the uterus 3/4 1/2 or grm. doses are injected daily for 3 to 4 days. The indications and contra indications are given. The results are excellent, especially in premenstrual hemorrhages. HAUER.

Fries: Treatment of Amenorrhoea (*Behandlung der Amenorrhoe*). *Deutsche med. Wochenschrift* 913, XXXI, 675.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Fries reports two cases of amenorrhoea in which intracervical injections of pituitrin had promoted a menstrual bleeding after the usual methods of treatment had been tried without any result. Five injections of 1 cm. of pituitrin were used in two cases. Whether the success is lasting only further observations will show. ROSENBAUM.

Foges: X-Ray Therapy in Uterine Hemorrhages (*Über Röntgentherapie bei Uterinblutungen*). *Wien. med. Wochenschrift* 9 3, LXII, 905.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Foges points to the superiority of X-ray treatment over operative treatment of uterine myomata, in so far as mortality and post-operative complications are concerned. The principal objection to conservative treatment is the possibility of overlooking a sarcomatous degeneration of myomata. In practice, however this objection is negligible. Severe injuries of skin and peritoneum are avoidable with an exact technique. The most important indication for X-ray treatment in gynecology is the ability to produce a decrease or complete cessation of hemorrhages.

Three cases are reported. In the first case diabetes, in the second valvular heart disease, and in the third refusal of the patient to submit to operation were the indications for the X-ray treatment. The author treated altogether twelve cases of myomata and four metropathies. Amenorrhoea was produced eleven times, oligomenorrhoea three times. As atrophy of the ovaries under X-ray treatment occurs much more quickly in older patients, those approaching the menopause are especially adapted to the treatment. Decrease in the size of tumors was observed only three times. The technique employed was that of Albers-Schönberg.

Softened and submucous tumors, also those that are growing rapidly or on account of their size and location, create functional disturbances in other organs are not adapted to the treatment. Each case, however must be followed closely and, should suspicion of sarcomatous degeneration arise, be immediately operated. The gynecologist and not the radiologist should set the indications. RÖNIG.

Pfahler: The Treatment of Uterine Hemorrhage by Means of the Röntgen Rays. *Am. J. Obst. & N.Y.* 9 3, LXVI, 260. By Surg., Gynec. & Obst.

This article is based upon a review of the literature and a report of twenty-three cases treated by the author during a period of ten years. The first effect noticed in the treatment of a fibroid is the decrease or cessation of bleeding. The closer to the menopause the more rapid is this effect. Generally there is a decrease or cessation of the flow within a month or two after the first two series of the rays, or after one or two full doses (10 to 200) have been given. For the production of complete and permanent amenorrhoea, from one to six applications (5 times to 60 times) are needed, requiring from three to six months usually. Occasionally after the first treatment the next period is more profuse than normal, in view of which very anemic patients should be put to bed. The reduction of the tumor is slow and secondary to the effect on the bleeding. He states that of sixteen patients who ceased treatment it is impossible to find the tumor in twelve.

The same nervous phenomena after the indicated

menopause may be expected after the natural one. In cases of metropathic hemorrhage the results are generally more prompt and striking. In older individuals it is advisable to continue the treatment after amenorrhea has occurred in order to make the effect permanent. In young individuals it may be sufficient to produce a temporary oligomenorrhea, expecting that later normal menstruation may be re-established.

Plaschke emphasizes the following points in the technique. It is necessary that the operator be an experienced roentgenologist; the exciting instrument give uniform current of high voltage and that he be one that will keep constant high vacuum of 7 to 8 B. moist the distance from the target of the tube to the skin of the patient is 3 inches. The rays are to be applied over the ovaries and tumor if no be present. They should be confined to the area treated as much as possible and much care exercised that no burn is produced. The frequency of application will depend upon the patient and skill of the operator. The most favorable time for treatment is just after period or a time corresponding to it. A little less than full dose (9 times) should be given and repeated at corresponding time the succeeding month. From one to three series is usually necessary. By the use of filters and radiometer, burns of the skin are more successfully avoided. In concluding he says that it is the method of choice in the control of hemorrhage in those at or near the menopause when cancer can be eliminated as a possibility, but is not the method of choice in young people unless there be contra-indications to operation. (See p. 317)

Fuchs: X-ray Therapy or Vaporization in the Treatment of Hemorrhagic Metropathia (Röntgentherapie oder Vaporisation bei Hämorrhagischen Metropathien). Monatsschrift für Geburtshilfe und Gynäkologie, 9, 3, 1914, 406.

By Zentralblatt für Geburtshilfe und Gynäkologie.

The author reports his experiences with the vaporization method obtained in 7 cases of hemorrhagic metropathia during the last nine years. He employs exclusively the vaporization of the fundus cavity the principal source of the bleeding, after thorough curettage of the mucosa and coagulation of the bleeding. After the introduction of an insulator to be for the special protection of the lithiasis, steam is introduced at temperature of 5 to 10° for from 30 to at most 60 seconds. The method is especially adapted to premenstrual bleeding, excepting severe cases of adenomyometritis, to all hypoplastic adenocarcinoma and all myxoma. It is directly contra-indicated in all catarrhal inflammations of the endometrium as well as in all inflammatory conditions in the neighborhood of the uterus. In 9 per cent permanent cures were obtained, 47.6 per cent permanent amenorrhea resulted, 44.4 per cent oligomenorrhea approaching the normal menstruation only in 8 per cent of cases as there complete failure. Analogous

to the clinical result were the anatomical findings obtained at a later exploration of the uterine cavity with sounds. On the strength of his good results the author is unwilling to decide in favor of X-ray treatment, as the latter is much more time-consuming and usually results in an injury to the function of the ovary. He highly advocates his more conservative method as the method of choice in all hemorrhagic metropathia in older as well as in younger women. (See p. 317)

Kaiser: A Perforation of the Fundus Uteri (Ein am Fundus perforierter Uterus mit Adhärenz). Deutsche Gesellschaft für Gynäkologie, 9, 3, 1914. By Zentralblatt für Geburtshilfe und Gynäkologie.

The patient was brought into the clinic with marked uterine hemorrhage following an attempt at abortion. Remnant portions of placenta were manually removed, followed by an alcohol douche, and when the curette was being introduced it slipped great distance without meeting its resistance. On account of the serious condition of the patient an immediate laparotomy was performed, revealing a deep-seated peritonitis several centimeters of a cloudy broad exudate wrapping. The uterus as the size of goose-egg and showed perforation at the fundus. The edges of the perforation had an old appearance, and it was certain that this had been done before the patient entered the clinic. In spite of complete hysterectomy and drainage the patient died within five hours.

Sigwart: Removal of Danger of Peritonitis by the Operative Treatment of Ruptured Uterus (Die Ausschaltung der Peritoniegefahr bei der operativen Therapie der Uterusruptur). Deutsche Gesellschaft für Gynäkologie, 9, 3, 1914.

By Surg. Gyneec. & Obst.

In a prompt rupture with little damage to the parametrium the total extirpation per vaginam is indicated. Where extirpation per vaginam is not possible, laparotomy is indicated. Exact double suture of peritoneal defect is recommended with no drainage. Sigwart reports five cases of complete six complete ruptures. Three spinal, eight abdominal total ruptures and one simple closure of the defect are performed. Three moribund cases died at operation and the other six recovered without signs of peritonitis.

J. R. Miller

ADnexial and Peritubal Conditions

Frankl: Ovarian Functions in Basedow's Disease (Über die Ovarialfunktion bei Morbus Basedow). Deutsche Gesellschaft für Gynäkologie, 9, 3, 1914. By Surg. Gyneec. & Obst.

Disturbances of ovarian function predominate in Basedow's especially diminished ovarian function as in puberty, pregnancy and lactation. The menopause must also be included. Of forty cases, eight began after 40 years, 11 between 40 and

53 years, and five in the menopause. In the severe cases amenorrhea was the rule though the type of menses gave no sure prognosis. Bland-Sutton's disease is not caused by damage to the ovaries. On the theory that ovary and thyroid work oppositely on the sympathetic, Frankl gave ovary tablets in three cases with improvement of the condition and sexual life. J. R. Miller

Whitehouse: The Autoplastic Ovarian Graft and Its Clinical Value. *Clin. J. Obst. & Gyn.* 9, 3, 384, 07.
By Surg. Gynec. & Obst.

In this short discussion of ovarian transplantation, Whitehouse reports one case in which the patient was menstruating regularly one year after operation. He believes that much greater success will attend the use of small portions of tissue, as is done in the case of the thyroid and other glandular structures. The vitality of the tissue is much more likely to be maintained if seedling grafts are made. As regards the site of implantation, he prefers the rectus muscle and peritoneal tissue. His conclusion is regarding these points as essential to the success of the operation.

2. Absolute asepticity and the use of strong antiseptics which would destroy the vitality of the tissues. This in cases of chronic pyosalpinx and salpingo-oophoritis is usually sterile.

3. The employment of minute seedling grafts.

4. The presence of good vascular supply in the tissue used as the bed for the graft. Muscle is entirely satisfactory for the purpose.

5. The ovarian tissue should be left in contact with the body fluids in the peritoneal cavity until it is required for the purposes of the grafts. In the case here recorded the ovary was placed in Douglas' pouch until the time arrived for closure of the abdominal wound. CAREY COLENTON

Regaud and Lacaze: The Conditions of Sterilization of the Ovary by X-Ray (Sur les conditions de la stérilisation des ovaires par les rayons X). *Compt. rend. Acad. Sci. et Biol.* 9, 3, 1047, 13.
By Journal de Chirurgie

Absolute sterilization of the ovary may it seems, be obtained by direct irradiation. It is only necessary that sufficiently strong dosage be used. But there has been some discussion as to whether the same results could be accomplished by irradiation through the thickness of the abdominal wall. Several early experimenters have claimed that this was the case, but the authors doubt this because of the results of their experiments with rabbits and dogs.

In the rabbit the ovaries occupy a fixed and superficial position. If one uses very hard rays and a dose of 1000 units of absolute sterilization is possible. (An aluminum plate of 4 millimeters thickness must be used as filter to avoid radio-dermatitis.) Of seven rabbits thus treated by the authors four remained sterile after fecundation although there was a late re-appearance of the symptoms of rut. The

ovaries of these rabbits contained only a few remaining normal folliculi.

In the bitch, the ovaries are more mobile and deeply situated. Here sterilization seems to be impossible since it is necessary to irradiate too large a surface and to use a dosage which is as strong as to cause the death of the animal by lesions of the intestines.

For the same reason sterilization in women is impossible by irradiation through the abdominal wall. The authors consider that the few cases which have been published are not interpreted correctly. PIERRE CARRÉ

Bland-Sutton: A Note on Typhoid Infection of Ovarian Cysts. *Internal Med.* 9, 3, 385.
By Surg. Gynec. & Obst.

The importance of differentiating the B. typhosa from the B. coli and the B. paratyphosa is emphasized by the author as well as the necessity of culturing on special media and of employing the agglutination test. All of these methods were taken advantage of in determining the nature of the infection in two cases here reported.

In the first case the patient had been treated one year previously for typhoid fever. The cyst was congested, plum-colored and veiled in a sheet of thin adherent omentum but showed no axial rotation on its pedicle. It contained fifty ounces of yellow purulent fluid free from odor. A pure culture of the B. typhosa was definitely proven.

In the second case the patient had had typhoid fever sixteen years previously and an ovarian cyst as opened and drained soon after a sinus persisting for nine months. The author's operation revealed an infected ovarian dermoid, the pus containing both B. typhosa and streptococci. The patient's blood gave a strong agglutination reaction, though both urine and feces were negative.

In conclusion Bland-Sutton shows that the majority of reported cysts infected by the B. typhosa have been of the dermoid type. The long duration of the infection as demonstrated by his second case is in all respects comparable to similar well-recognized infections of the gall-bladder.

CAREY COLENTON

Wright: Ovarian Cyst with Twisted Pedicle. *Toronto Med.* 9, 3, 40.

By Surg. Gynec. & Obst.

Wright's case had never been pregnant and her present trouble began one and one-half years ago with pain in the right iliac region, slight nausea, but no vomiting nor temperature. Her second attack occurred several months ago lasting five weeks. Appendicitis was the diagnosis in both attacks. The third attack was similar in all respects, except that it was accompanied by temperature of 100.4 and pulse of 20. Operation for chronic appendicitis was advised. Laparotomy revealed a dermoid cyst and unilocular cyst of the right ovary with a twisted pedicle. The dermoid was the size of a

orange, and along with it was unilocular cyst twice its size, though no diagnosis of tumor had been made before the operation. C. D. HODGINS

COWIE: A Case of Malignant Multilocular Cyst of the Ovary in a Young Girl. *Physician & Surg.* 913, xxiv, 200. By Surg. Gynec. & Obst.

The author gives a detailed history of a seven year old girl who entered the hospital for painless enlargement of the abdomen. The patient menstruated month before entering and again just before leaving the hospital. Cumming operated upon her and removed a right ovarian cyst which weighed about three pounds. This proved to be multilocular cyst of the ovary undergoing carcinomatous changes, or malignant teratoma. C. H. D. VAN

GURD: Primary Malignant Neoplasm of the Fallopian Tube. *Canad. M. Ass. J.* 9 3, 113, 120. By Surg. Gynec. & Obst.

True primary neoplastic tumor formation in the Fallopian tubes is a comparative rarity. Cancers constitute the most malignant blastomata of this organ. The author reports minutely a case of primary papilliform, medullary cancer of the tube, describing the symptoms, technique of operation and the microscopic examination of portions of the removed organs. HENRY SCHMIDT

EXTERNAL GENITALIA

CAUWENBERGHS: Thrombus and Veno-Vaginal Hematoma (Thrombus et hématome valvo-vaginal). *Bull. Soc. belge de gynéc. et d'obst.* 9 3, xxiv, 187.

By Zentralli f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

The patient was 3 years old and in her fourth pregnancy when she entered the clinic. At the onset of labor the child lay in the left occipito-anterior position. Dilatation was slow and difficult. The second stage lasted one and one half hours with powerful pains, the child being normal. The after-birth and membranes showed no abnormality. On the day after delivery a hematoma was noticed on the inner side of the right labium major. This was treated with cold applications, all pressure being avoided for fear of gangrene. The following day the swelling was larger but for fear of infection it was decided to wait. Finally after two days, with thorough disinfection, large incision over the deepest part permitted the removal of a large quantity of clotted blood. The cavity was not explored, to avoid possible recurrence, but was irrigated and packed with iodoform gauze. The hemorrhage did not recur and no infection set in. The large cavity filled up with granulations within three weeks, and mother and child were discharged in good condition. The author believes that in the absence of other organic causes the hematoma was due to the powerful efforts of the patient to deliver herself rather than submit to forceps delivery. FOLLER

BROEHA: Creation of New Vagina, with Report of Case of Transplantation of the Small Intestine into the Vagina (La création d'un vagin artificiel avec relation d'un cas de transplantation vaginale de l'intestin grêle). *Bull. Acad. de Med. de Belgique*, 9 3, xxiv, 20 and 21. By Journal de Chirurgie.

After summarizing the various old (generally imperfect) processes devised by surgeons to give vagina to women denied one by Nature, the writer details at full length upon the two methods which now vie with each other for the favor of the surgical world, viz. Schubert's, which takes the terminal portion of the rectum to make the new vagina, and Baldwin's, which for the same purpose uses a loop of small intestine.

Baldwin's operation, as modified by Stoeckel, was Broeha's choice to relieve the moral distress of a girl, 20 years old, who absolutely insisted upon operation. The first step was to burrow a canal in the recto-vaginal septum up to Douglas' pouch. Next the abdomen was opened through Pfannenstiel incision. There was no trace whatever of an uterus there were two ovaries flattened on the lateral pelvic wall and each accompanied by small parovarian cyst, which was removed. Then a loop of small intestine, inches long, was freed, due care being taken to spare the mesenteric attachment, and, by means of thread, said loop folded in its middle, V-fashion, was dragged through the incision in the peritoneum of Douglas' pouch down to the vaginal tunnel. Continuity of the gut was re-established and the abdomen was closed.

The third and last step consisted in bringing down to a level with the hymen the tip of the folded intestinal loop which filled the vaginal infundibulum. This was easily done the loop was opened, and its edges sutured to the edges of the cutaneous wound.

Three months after the operation there was between the urinary meatus and the anus a round opening admitting the finger and leading into a canal 4 inches long which terminated at the spot formed by the angle of the kink of the transplanted loop. It will be easy to ascertain the functional result, as the patient will be married in a few months. The paper is illustrated with several diagrammatic figures which enable the reader readily to understand at glance the described procedure. J. DUNN

SCHMID: Vesico-Vaginal Fistula Cured by Transplantation of the Fascia Lata (Blasen- und Vaginalfistel, geheilt durch freie Fascientransplantation). *Dtsch. J. gynäk. Urol. Leipzig*, 9 3, 14 35.

By Zentralli f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

The transplantation of the fascia lata as proposed by Kirschner has found extended use in surgery but a few reports only are found in gynecological literature. The use of fascial transplantation in operations for vesico-vaginal fistula is of recent date. In the patient referred to three negative attempts were made to close the fistula. The fascial transplants

tion in the fourth operation brought about a favorable result.

After separation of vesical and vaginal mucous membranes, the edges of the vesical fistula were freshened and the fistula closed in a transverse direction by four catgut sutures. After careful hemostasis a portion of the fascia lata of the right thigh was sutured between vesical and vaginal mucosae so that it covered the entire vesical fisture. To obtain as much tension as possible the fascia was sutured taut by catgut sutures at its four corners. Finally the vaginal mucosa was sutured in a longitudinal direction by the assistance of a relaxation incision. After operation retention catheter was used for 3 days. The patient completely recovered.

It is of the utmost importance that the fascial flaps be tightly stretched and then fold up thus interfering with the blood supply. The formation of a dead space or hematoma also interferes with healing. Small fascial flaps are better as the are less exposed to the danger of necrosis. The use of fascial transplantation is recommended in all cases of vesico-vaginal fistula which are not cured by primary fistula operation. Further for all primary operations of larger fistula if one does not succeed in uniting the vesical and vaginal mucous membranes. References are given. BOSTON.

Savard Contribution to the Study of Primary Carcinoma of the Vagina (Contributo allo studio del carcinoma primario della vagina). *Atti del Congresso Ginec. 913, 1917, 35*

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Gynäc.

The author reports 26 cases of primary vaginal carcinoma occurring among the three hundred cases of carcinoma of the female genitals during six years in the hospital at Siena. He mentions the age, etiological factor and seat of the neoplasm (two cases developing during pregnancy). Only one case was not of the squamous celled type. Savard lays stress on the pruritus as an initial symptom. The internal and external glands become involved quite early and this explains the frequent recurrence after operation. Four of the other cases were inoperable. In operable cases, the author removes both internal and external glands as far as possible. Three of the cases showed post-operative recurrence, one developing from the remaining glands, the other two beginning in the scar. BOSTON.

Graff and Novak Basedow Disease and the Genital Gland (Basedow Disease and the Genital Gland). *Deutsche Gesellschaft f. Gynäk. u. Geburtsh. Halle 913, May*

By Surg. Gynec. & Obst.

The examinations of 36 cases of Basedow's disease showed diminished genital function in eighteen, increase in one and no change twelve. In ten cases the indications of primary ovarian deficiency were present. Dysmenorrhea was present in six cases, seven cases, which under the circumstances might have become pregnant remained sterile.

One patient who became pregnant, grew worse and improved under antithyroidin. Two got well spontaneously in the second half of pregnancy. One case with compression of the trachea and status lymphaticus died under anesthesia. One child was normal, one premature and one under-developed. In twenty-six cases, where the genital examinations were of value, sixteen cases were normal, one each had parametritis and parametritis atrophicans of Freund and three were atrophic probably senile. One 2 year old patient had a very small uterus, four had outspoken infantile genitalia and ten had other stigmata of hypoplasia. Basedow's disease often starts in puberty, pregnancy or the climacterium. One started after a hysteromyomectomy and another after X-ray castration for myoma.

Graff concludes that the genital system can be greatly influenced by the thyroid, and that the thyroid reacts sensitively to genital changes, partly perhaps through sympathetic changes. Individual cases must be examined carefully to determine the primary factor. J. R. MULLER.

Gräfenberg A Contribution to the Chemistry of Vaginal Secretions (Beitrag zur Chemie des Scheidensekrets). *Deutsche Gesellschaft f. Gynäk. u. Geburtsh. Halle 913, May*

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Gynäc.

The acidity of the vaginal secretions of any woman has a wide range of variation. By making a serial examination of the secretions of the same woman it becomes evident that the acidity is dependent on the menstruation for the percentage of lactic acid is seems higher before, during, and after the menstrual period. The fluctuations in the acidity are independent of the amount of menstrual flow, for they occur also during pregnancy and after uterine operations. There are no quantitative fluctuations in the amount of acid during the menopause.

Pollard The Treatment of Gonorrhoeal Infections with Tamarogentian Suppositories (Die Behandlung gonorrhoeischer Prozesse mit Tamarogentian-Suppositorien). *Deutsche Gesellschaft f. Gynäk. u. Geburtsh. Halle 913, May*

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Gynäc.

Tamarogentian is silver albuminate combined with an astringent. In the preparation of the ordinary bougies an easily soluble fatty base is used which covers the mucosa with fat so that the bactericide can not act and stronger compounds cause irritation. These suppositories poor in fat, can easily be introduced into the female urethra. In this way it may be used by public women, who are rarely entirely free of gonococci as a prophylactic and thus protect the male. The ordinary suppositories are with difficulty introduced into the cervical canal, but the elastic tamarogentian bougies can be easily introduced and a spreading of the gonorrhoeal process to the uterus and adnexa is not to be feared. The results of the treatment were good irritating actions did

not appear, the secretion and gonococci decreased. The use of these bougies in vaginal gonorrhea of girls is very successful, its action is lasting while solutions always are discharged. After iodoargentum has displayed its antiseptic action it continues to act against the inflammation and inhibits the secretion by its astringent substance in the form of tannin. Thus it removes the often long continued mucous discharges. It is also to be recommended for the chronic forms of gonorrhea. Von Minckwitz.

Vogt Contribution to Melano-Sarcomata of the Clitoris (Beitrag zu den Melanosarkomen der Clitoris). *Arch f Gynäk.* 9 J. xix, 364. By Zennaro I. d. gen. Gynäk. Göttingen. u. d. Grenzgeb.

Vogt offers a collected report of 8 primary melano-sarcomata of the clitoris, which have been published; that with the addition of personally observed case.

His patient is a woman, years old, who arrived at the menopause 15. Nine months prior to the operation the patient noticed a bluish discoloration on the left labium with the formation of growth. The urethral orifice was covered by the tumor but was not itself involved. Extirpation of the tumor with the lymph glands and the surrounding parts of skin was undertaken with successful recovery. Death ensued 3 months later from sepsis. Microscopical examination showed that the epidermis and corium were intact, the tumor being situated in the subcutaneous adipose tissue. The pigment content of the cells was pronounced and pigment the shape of amorphous masses was found in the lymph spaces and blood vessels. The superficial and deep lymph nodes have undergone malignant degeneration.

Melano sarcoma of clitoris, in contradistinction to vulvar sarcoma is found mostly in elderly women. The vaginal glands are also involved. Prolonged intervals before recurrence after radical operations have almost never been observed. The superficial and deep inguinal lymph nodes must always be removed even if they appear healthy on account of the great malignancy. Should they be involved then the iliac and hypogastric lymph glands also must be removed. Gruber.

MISCELLANEOUS

Killmann Thiry and Benesch Spontaneous Gangrene of the Genital Organs in Men and in Women (La gangrène spontanée des organes génitaux chez l'homme et chez la femme). *Paris méd.* 9 J. li, 39. By Journal de Chirurgie.

Among the reported cases of gangrene of the genital organs there are a large number in which the pathology is but little understood, namely those cases occurring in young individuals without organic deficiencies and whose hygiene is good. Tournier has given a remarkable clinical description of those rapidly progressing cases, to which he applied the name of spontaneous fulminating gangrene.

This type, heretofore has been met with only in males. The authors, however have gathered three cases in women, one of these being original and unpublished. The condition seems much more dangerous in women, very likely owing to the anatomical disposition of the female genital organs. In the female the mucous surfaces are very extensive and offer particularly favorable ground for bacterial growth, fascial septa are less developed, and, therefore, do not constitute as powerful barrier against the spread of infection. Furthermore, treatment is much less efficient, because it is very difficult to keep the gangrenous parts separated from the healthy skin or other gangrenous parts and, finally because the method of treatment so easy to apply in the male, free irrigation, or even continuous bathing, is not satisfactorily applicable here.

The three reported cases died. Their unpublished case is summarized as follows. A young girl, 18 years old, without any previous morbid history, was admitted to the hospital for gangrenous sore in the labia majora, the groins and anus and ascending to the sacrum. She states that after a profuse diarrhoea, abrasions developed around the anal margin and became the starting point of the small crusting lesions. The perineal muscles are exposed as if dissected in an anatomical specimen. Gangrenous patches are seen on the fasciae and the wound emits an offensive stench. The general condition is poor, temperature 102° pulse 90. The necrotic process progressed, the dead tissues fell off and soon the clitoris took the place of the rectum and vagina the rectal ampulla was buried in the middle of the gangrenous focus. 1 injections of camphorated oil and electrargol were given without any appreciable benefit.

As cultures show the presence of Vincent's bacilli and spirilla, intravenous infusions of 0.45 gaseosalvarsan were given at four days interval. This brought about a fall in the temperature and an improvement in the general condition. In the third week, two months focus with its placenta was expelled, the ovum being intact. Thereafter the general condition steadily grew, one decubital ulcer developed and the patient died.

The autopsy did not disclose any important facts. The lungs exhibited active tuberculous lesions. The uterine cervix was completely necrotic, the os and cervix intact, but all the soft parts of the region are involved and almost in state of disintegration. Bacteriological examination showed numerous Vincent bacilli and spirilla in the necrotic foci associated with many gangrene-producing micro-organisms (Loeffler bacillus, micrococci in chains or clumps, colon bacillus, etc.) J. Denon.

Chisholm Menstrual Melinemia. *J. Obst. & G. soc. Brit. Emp.* 912, xlii, 244. By Berg. Gynec. & Obst.

Chisholm has made careful inquiry into the frequency of disturbances of menstruation in otherwise healthy young girls and from an analysis of the

menstrual histories of 500 school girls of English middle-class concludes:

The majority of girls commence menstruation painlessly 58 per cent of the series had no pain.

1. That a number have discomfort, some occasionally soon regularly for a time varying from one hour to two days just before and with the commencement of the menstrual period. This discomfort is often slight in character.

2. That a few have more severe pain, either regularly or occasionally. A very small number i. e. 1.8 per cent, are incapacitated.

3. That a small number i. e. 1 per cent have discomfort or pain for a longer period than one or two days during the whole time of menstruation.

4. That the discomfort in girls is most frequently local in character and when there is serious general disturbance it is accompanied by severe local pain, and probably proceeds from some local abnormality congenital or acquired.

5. That the best developed girls seem less likely to have menstrual disturbances.

6. That this freedom from discomfort is not affected by hard mental work carried on under healthy conditions. N. SPENCER HEALD.

Henry Clinical Manifestations of Genital Tuberculosis in Women. *Med. Record*, 1913, 2, 2221, 75. By Surg. Gynec. & Obst.

The author gives a very interesting review of this subject. His statistics are of particular interest. After a large number of autopsies on women dying from tuberculosis, by many observers, it has been found that the genital organs are affected in from 3 to 10 per cent, while men dying from general tuberculosis have the genitals affected only about 1/4 to 1/6 as often. In 13 cases of genital tuberculosis reported by various observers, 8 involved the uterus. In 4,470 collected autopsies on women, some 53 had tuberculosis of the testes, while in autopsies on 1,616 tuberculous women, 14 testicular cases were found. In 84 collected cases of salpingitis 39 were tuberculous. Of 394 cases of tuberculous lesions in the genitals 77 showed involvement of the ovary.

The author reports four cases of his own. He calls attention to the fact that abortions, gonorrhea, and other inflammations, as well as all injuries or contusions and general run-down or anemic conditions may be predisposing factors in the origin and development of genital and peritoneal tuberculosis. C. H. D. VAN.

Findlay Management of Genital Tuberculosis in Women. *Med. Record*, 1913, 2, 2221, 8. By Surg. Gynec. & Obst.

The author reviews the subject and draws the following conclusions:

Genital tuberculosis, in women, is rarely a direct cause of death. The fatal issue is usually determined by the primary focus in the lung or bowel.

1. In fully half the cases there is no urgent indication for operative interference.

2. As genital tuberculosis is rarely primary the symptoms due to the primary lesion must be discriminated from those due to the lesion in the genital organs.

3. The symptoms referred to the genital organs will usually yield to palliative measures.

4. A radical operation is rarely justified for relief from symptoms caused by genital tuberculosis.

5. There is danger in operative interference from the awakening of a latent primary focus, from the high primary mortality in these cases, and from the unnecessary sacrifice of organs, inasmuch as spontaneous healing is a possibility as in tuberculosis elsewhere in the body.

6. In tuberculous peritonitis, the cause of death, in 90 per cent of cases, is chargeable to the primary focus.

7. In operating tuberculous peritonitis it is well to remove the testes when infected in order to cut off the source of supply to the peritoneum.

8. The utmost conservatism should be exercised in dealing with the ovaries and uterus in young women.

9. The exudative type (tuberculous peritonitis) alone is favorable to operation. Do not operate in the presence of fever or an active primary focus in the body.

In the absence of severe symptoms directly referred to the lesion in the genitalia or peritoneum, operative measures should give way to the usual hygienic measures, at least for an extended trial.

C. H. D. VAN.

Theilhaber The Influence of the Climacteric on Cancer (Der Einfluss des Klimakteriums auf die Carcinome). *Deutsche Gesellschaft f. Gynäk. Halle*, 9, 3, May.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The connective tissue of the fetus contains a large number of cells, and as the individual grows older they become fewer in number. An exception occurs during pregnancy when the number of cells in the connective tissue of the genital organs rapidly increases. A very rapid decrease in the number of connective tissue cells occurs during the climacteric. The quantity of blood present in the genitalia shows a similar behavior and it steadily decreases, at least after the 30th year. An exception also exists during pregnancy and labor when the amount of blood increases markedly while it decreases rapidly during the climacteric.

The disposition to cancer is in inverse ratio to the richness of the connective tissue in cells and blood. Youthful age is almost immune from cancer of the genitalia. It very rarely develops during pregnancy and the puerperium while its occurrence is exceedingly frequent during the climacteric. The explanation of this is to be sought in a disturbance of the equilibrium between the epithelial and connective tissue cells caused by the few connective tissue cells

In contact with the corresponding epithelium for the connective tissue cell is the obstacle against the invading epithelial cell. The latter penetrates especially easily if such processes as extensive scar formation and chronic inflammations, causing a decrease of cells and blood in the connective tissue, already exist. The beginning invasion of the epithelium into the connective tissue is frequently rendered harmless by the reactive hyperemia and round-cell infiltration which immediately sets in. This reactive hyperemia does not obtain its purpose if a *restitutio ad integrum* is impossible on account of the marked anemia of the tissue with a resulting scanty round-cell infiltration (old inflammatory processes or extensive scar formations) or if causes of a general nature render the formation of round-cells difficult (extensive atheroma, atrophic degenerations in places where round cells are formed as the spleen, lymph nodes, etc.) These considerations should teach us to prevent recurrences after operations for cancer by increasing the strength of the entire body and by producing a hyperemia of the scar by dry cupping, massage diathermy injections of uterine extracts, etc. In the treatment of cancer also all those methods which excite hyperemia and round-cell infiltration as raying by the X-rays or radium choline, terine extracts, toxins, etc. are rational.

Hauwer. Multiple Primary Cancers of the Female Genital Organs (Multiple primäre Carcinome des weiblichen Genitalapparates). Arch f G u G 3. 1927, 370.

By Zentgraf I d. ges. Gynäk. Geburtsh. d. Grenzgeb.

If multiple primary tumors of the genital organs occur either in the different organs of the genital system (the breast and thyroid gland also belong to this system) or only in the uterus. In the latter organ they may be separated from each other or not. If uterine and ovarian cancers occur at the same time it is often very difficult to decide whether they depend on each other or whether the ovarian tumors are not metastases of other primary growths. In adenocarcinoma of the uterus and squamous and cylindrical cell cancers of the corpus occurring at the same time the question arises whether two primary cancers are concerned or only one. With a metaplasia of the epithelium the other. Although squamous epithelium has been repeatedly found in the uterus the latter explanation is the more probable one. It is only in the rarest cases that one may suppose that metaplasia preceded the formation of cancer. Only 3 cases have been recognized as multiple primary cancers of the uterus and Hauwer here desires to add a fourth one. The 6 cases of multiple primary cancer in the different genital organs collected by Lubarsch, two probable cases can be added, no also cases of his own. The author's cases are as follows.

1. A multipara whose menopause occurred 3 years ago suffered for the last 9 months from bloody discharge with smears. Bilateral ovarian tumors with peritoneal metastases and large uterus were found

at operation. The left ovary revealed a solid medullary cancer the right ovary pseudocysticous cyst, while in the uterus was an adenocarcinoma, and in the right tube metastases of the ovarian cancer. There was no evidence that the ovarian tumor was metastatic, the histologic construction also being against this. A multipara, 4 years old and at the end of pregnancy had had irregular hemorrhages for the last year. Cervical cancer was made out and Caesarean section with radical cauterization was performed. A sloughing cancer was found in the posterior lip, the largest portion of which was squamous called with epithelial parts. The smaller portion of the cancer which was found in the cervical canal was an adenocarcinoma. The cells resembled medium sized cylindrical epithelium and had borders and areas which were mucocarmis positive. Both portions were intimately connected. Its each other without a distinct line of demarcation.

Aden. Carc.

Goldstein. A Case of Acromegaly Following Castration in an Adult Woman (Ein Fall von Akromegalie nach Kastration bei einer Erwachsenen). Fra J. München med. Wochenschr. 30. 12. 1927.

By Zentgraf I d. ges. Gynäk. Geburtsh. d. Grenzgeb.

The patient, 38 years old, who as a girl showed a tendency toward gigantism, was subjected to a pan-hysterectomy for myomatous uterus. Enlargement of the hands and feet, thickening of the symphyseal epiphysis and protrusion of the eyebrows was noticed the following year. In short, an acromegaly developed due to an increase in the hypophyseal secretion without recognizable enlargement of the gland. From the lack of the neutralizing ovarian secretion, the organism became flooded with the accumulated hypophyseal secretion. The glandular apparatus governing the growth of the osseous system is not normal in this patient as is shown by the tendency to gigantism before and after the poorly balanced organism as shown entirely out by the exclusion of part of the secreting apparatus. As the absence of the epiphyseal prevented an increase in the length of the bone thickening resulted.

Kastr.

Frans. Methods of Physical Treatment in Gynecology (Die physikalischen Behandlungsmethoden in der Gynäkologie). Zeitschr. f. Anal. 1927, 9, 1, 2, 3.

By Zentgraf I d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Physical treatment is indicated for sterility combined with dysmenorrhea due to faulty development of the genitalia and for sterility which is caused by hyperinvolution after delivery. For such cases, binasal massage and electric current applied.

For Apostel's method for ten to fifteen minutes are recommended because they effect an improvement of the musculature and of the mucosa of the uterus. Leucorrhoea and chronic inflammation after puerperal infection, vulvinitis, pelvic peritonitis, and adnexal disease are considerably influenced by this

therapy: parametritis, however, is not much benefited. Periproctitic exudates with scar tissue formation are similarly benefited.

Tuberculous diseases of the adnexa are inaccessible to physical treatment, and operation is the proper procedure. Gonorrheal inflammations are very favorably influenced by massage and heat here one hand massages outside, while the other one rests motionless in the vagina. The various methods of massage and of heat are discussed. One hundred and ninety cases of genital diseases which Franks treated were favorably influenced by his methods, while in 5.3 per cent there was no effect. X-ray treatment is advocated for myomatous and climacteric hemorrhages. Improvement was observed in 59 out of 111 cases of myomata, or 83 per cent. The treatment is contra-indicated in pedunculated myomata which are partly expelled from the vagina when gangrene or carcinomatous degeneration are suspected in myomata with acute incarceration of the bladder and in women less than 4 years old.

M. GILLES

Walther Synthetic Hydrastinin Bayer a Substituta for Fluid Extract Hydrastis Canadensis (Synthetisches Hydrastinin-Bayer, ein Ersatz für Extr. Hydrastis canadensis fluidum). *M. B. Pharm. med. Wochenschr.* 9 3 12, 604.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

This synthetic preparation of hydrastis is made from heliotropin. The writer has used it advantageously in menorrhagia the result of disturbed function of the ovaries and chronic diseases of the adnexa, dysmenorrhoea with menorrhagia, displacement of the uterus, secondary hemorrhage the result of heart disease or hepatic disturbances, and in cases of myomatous uteri. It is an excellent preparation for the after treatment of curettage. Dosage 53 drops, two to three times daily in cases of menorrhagia 0-5 drops, two to three times daily as prophylaxis, and after cessation of hemorrhage as well as in the cases of curettage. Subcutaneous injection of .75 (= 7 drops of the liquor) had the same therapeutic effect.

FAKOV.

Klots X-Ray Treatment in Gynecology (Strahlentherapie in der Gynäkologie). *Deutsche Gesellschaft f. Gynäk. u. Gynäk.* 913, May.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author considers the fact that cancers can only be influenced by the X-rays when enormous doses are applied. The deep penetrating rays are necessary in examining the tumors after treatment it is seen that the tumor cells in the center of

the growth are frequently not reached by the rays. According to the experiments of Neuberg and Kaspari in animals there are certain substances which possess an affinity for heavy metals. It is also known that these substances cannot act unless they come in contact with each individual cell of the tumor which is impossible if the substances are injected subcutaneously or into the tumor itself. Therefore they must be applied directly into the blood stream from which each cell derives its nutriment. He advises on that account the simultaneous injection of these substances with the X-ray treatment to attack the tumor from two sides. The author has lately begun this treatment at the Lohninger Gynecological Clinic, using silver substances, especially collargol intravenously with medium sized doses of X-rays and in addition radium bromide. Experiments with other metals (selenium and copper) are in progress. No results can be published, as the time of its employment is still too short. The author however advises the combined treatment in all cases of inoperable carcinoma of the uterus.

Frankl Technique of X-ray Treatment in Gynecology (Zur Technik der Röntgen-Gynäkologie). *Gynäk. Rundschau*, 9 3 VII, 247.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The method of X-ray treatment employed at the Schauta clinic in Vienna follows that of the Freiburg school: multiple areas of application, cross-firing filtration and short focal distance. The instrumentarium made according to the author's design is as follows: For abdominal application compression of the abdominal wall with taut-drawn towel, over this a lead-rubber bladder with marks designating the naves and the midline of this bladder are outlined 4 synaxes of three cm. each. The tube is applied to each field. Its lower end fits into funnel-shaped tube protector the size of its lower opening corresponding to the size of the field and is adjusted to a 10 or 15 cm. focal distance from the skin. An aluminum filter can be inserted into the lower end of the funnel. For vaginal application of the rays the author uses a lead-glass speculum with an aluminum ring. The aluminum ring fits firmly into hole in an adjustable stand. The hole in the stand is surrounded by four flexible pieces of lead-rubber to act as a covering for the vulva and thighs. The focusing of the tube in front of the hose is very simple, and a filter can be placed in front of it if desired. The author sees great advantage in rhythmic interruption. Tubes employed are the Röntgenkathode and the Zentralrohr.

M. GILLES

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Peterson: A Case of Full Term Ectopic Gestation with Dead Fetus Retained in the Abdominal Cavity for Eight Months. *Physician & Surg.* 9:4, xxiv, 194.

By Surg., Gynec. & Obst.

The author reports a case which he operated eight months after term. Most of the placenta was removed, but the patient developed peritonitis and died. The author believes that the placenta should be removed whenever possible even if to accomplish this, preliminary ligation of the large arteries or even compression of the aorta be necessary. When the placenta cannot be removed, the best results have followed the stitching of the sac to the abdominal wall and protecting it and the placenta from the peritoneal cavity by gauze packing. C. H. Davis.

Neugebauer: A Case of Pregnancy Five Years after Piccoli Operation for Puerperal Inversion of the Uterus (Über den Geburt 5 Jahre nach rekonstruierender Piccolioperation wegen puerperaler Uterus-inversion). *Zentralbl. f. Gynäk.* 914, xxvii, 530.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

The author reports the case of nineteen-year-old woman suffering from an inversion of the uterus of three months' standing following spontaneous delivery. A cure was effected by means of a total posterior hysterotomy by the Piccoli method. Five years later she was spontaneously delivered of full term child. The expelled placenta was bilobed, a condition which the author assumes to have some connection with the operation, in so far as the placenta was situated on the posterior uterine wall and the connective tissue bridge between the two parts corresponded to the uterine scar which the villi were unable to penetrate. On the strength of this observation, the author suggests that in repeated Caesarean sections the site of the placenta should be determined and, if over the old scar, it should be examined for the described abnormality. There are ten cases of pregnancy reported after an operative re-inversion of the uterus. The author concurs with Mansfeld in the opinion that inversion is due to torsion of the uterus and hypoplasia of the suprapurial system. Szasz.

Krasnopolsky: A Case of Full Term Extra-uterine Pregnancy with Living Child (Ein Fall von Amniontropher Extrauterintragvidität mit lebender Frucht). *Russ. Monatsschr. f. Geburtsh. Gynäk.* 9:3, xxviii, 225.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Gynäk.

A primipara 3 years old had been married 18 years and had always been well. The menses ceased

after August, 1904. From the third month on, she suffered from abdominal pains. There was a discharge of amniotic fluid at the fifth month, according to the statements of a midwife. Fetal movements were first noted at either the sixth or the seventh month. At that time the pains became more severe and vomiting supervened. In October, 1905, a physician was consulted, who made the examination under anesthesia because of the pain. The outlines of the uterus were not visible, but the small parts of the fetus were felt directly underneath the abdominal walls. The heart sounds were heard above the umbilicus. Amniotic fluid with venous clots flowed from the cervix. The internal os was dilated and the cervix found empty. It was enlarged, however corresponding in size to the third month of pregnancy. Upon opening the abdomen, the amniotic sac with a slight amount of fluid lay above the intestines and in it was found partially asphyxiated, full term fetus. The gestation sac represented the enlarged tube from which the placenta was detached. The uterus was permeated with dense knots, hence was removed by supra vaginal amputation. The mother's recovery was uneventful, but the child died fifteen hours later. The placenta weighed 553 gm. The membranes were torn at the uterine tubal os, which explains the discharge of amniotic fluid from the cervix. Gassner.

Hallander: Full Term Pregnancy in Accessory Tube of Bicornate Uterus (Omnesse à terme développé dans une corne accessoire d'un uterus bicorné). *Arch. mens. d'hist. et de gynék.* 914, II, 393.

By Journal de Chirurge.

The pregnancy was the result of a peritoneal migration of the ovum and sperms, since the tube uniting the normal tube to the accessory tube had no lumen and the corpus luteum was in the ovary on the opposite side. The normal tube as longer than usual, almost certainly because of gestational hypertrophy. The fetus had been dead for more than two months. There had been no casting off of placenta. The pains from which the patient suffered were probably due to the presence of adhesions with the appendix and the omentum. The differential diagnosis between intra-uterine pregnancy intra-ligamentous pregnancy and pregnancy in an accessory tube of bicornate uterus was based upon the palpation of normal uterus, of right round ligament which was attached to the superior lateral portion of the tumor, and by the palpation of the wall and the form of the tumor and by the observation of uterine contraction.

L. Carrara.

Siefert: Interstitial Pregnancy (Interstitialle Gravidität). *Zentralbl. f. Gynäk.*, 9 3, xxxvii, 375.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The author found forty cases in the literature of the extremely rare condition known as interstitial pregnancy. The condition is difficult to understand, since there is no sharp boundary between the uterus and tube. Thus pregnancies can be called interstitial only when the ovum is imbedded in that part of the tube which is within the uterine wall. This portion is only one centimeter long and by the growth of the ovum all boundaries are erased. French authors differentiate an utero-tubal and a tubo-uterine pregnancy.

The author diagnoses an interstitial pregnancy by its relation to the round ligament. When the round ligament is lateral to the ovum an interstitial pregnancy is present.

The author reaches the following conclusions: (1) Inflammations of the adnexa complicate the chief etiological factor in ectopic gestation. (2) The case should be operated on as early as possible because the patient may bleed to death from even the smallest perforations. (3) The diagnosis is difficult to make, on account of the few physical findings and the slowness of hemorrhage. (4) The perforation is always found on the posterior convex surface of the tube and usually occurs in the second or third month. (5) No ectopic gestation of the interstitial type has ever been seen after the sixth month. (6) Vaginal operation is useless in these cases. II. UTERA.

Gall: Pituitariol in the Treatment of Placenta Praevia (Pituitariol in der Behandlung der Placenta praevia). *Zentralbl. f. Gynäk.*, 9 3, xxxvii, 374.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Gall recommends in cases of placenta praevia lateral rupture of the amniotic sac and the injection of cc. of pituitariol. In placenta praevia centralis he performs version, if the cervical dilatation permits, otherwise he introduces the metreurynter into the amniotic sac and immediately injects cc. of pituitariol. As soon as the metreurynter is expelled, he performs version and again administers cc. of pituitariol. The expulsion of the fetus in either instance is left to the labor pains which are increased by the drug. Nine cases, one of lateral and eight of central implantation, were treated according to these principles and six living children were delivered. In the other three cases, the fetal heart beats could not be elicited when the patient entered the hospital. One anemic multipara died after version and extraction. **KREBS.**

Reentlin: Carbohydrate Metabolism in Pregnancy and in Eclampsia; Few Words Concerning Insufficiency of the Liver (Über den Kohlenhydratstoffwechsel in der Gravidität und bei der Eklampsie; ein Beitrag zur Frage der Leberinsuffizienz). *Monatsschr. f. Geburtsh. u. Gynäk.*, 9 3, xxxvii, 395.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The following conclusions may be drawn from the author's observations: Disturbances in carbohydrate

metabolism in pregnancy are only slight as a rule. With regard to alterations in carbohydrate metabolism some influence must be attributed to the glands of internal secretion, as these produce a temporary disturbance of the physiological equilibrium. Of the toxemias of pregnancy eclampsia alone shows any considerable deviation from the normal and manifests itself in the rapid increase of sugar in the blood, which is essentially conditioned by cramps. A material injury of the function of the liver is not to be assumed. Nevertheless, it should not be forgotten that functional disturbances of the liver in most cases do not manifest themselves until marked degeneration has set in. The absence of any differences whatever during pregnancy especially in those cases which are examined before the manifestation of eclampsia, therefore removes all grounds for assuming that functional disturbances of the liver are to be considered as an etiological factor in the development of eclampsia, so far as disturbances in metabolism of sugar come into question. The literature on the subject is discussed in detail. **IRMS.**

Christé: Researches on Puerperal Eclampsia (Recherches sur l'éclampsie puerpérale). *Revue pédiat.*, 9 3, iv, 94.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The author reports on experimental investigations and describes the action of increased blood pressure in the kidney induced within ten minutes by temporary ligation of the renal vein. Experiments conducted on twenty days corroborated the previously reported findings. The most important is the injury to the liver (necrosis of liver cells and kidneys). Poisons substances, probably products of autolysis, immediately taken up into the circulation induce the clinical picture of puerperal eclampsia. From what organs these poisons are absorbed cannot be stated at present. Of the twenty-seven cases of eclampsia treated by venesection with drawing 700 to 1000 g blood, three died. If he excludes the two moribund cases, a mortality of only 4 per cent is found. The author advises venesection for the treatment of eclampsia. **EVOLUZIONI.**

Zinnser: The Toxicity of Urine during the Puerperium and in Eclampsia (Über die Toxizität des menschlichen Harnes im puerperalen Zustand und bei Eklampsie). *Zentralbl. f. Gynäk.*, 9 3, xxxvii, 43.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Pfeiffer's experiments prove that the poisons in toxicosis, the result of albumen decomposition, are excreted by the kidney. Typical clinical pictures are produced by injecting such toxins into guinea pigs.

Franks found the urine of healthy pregnant women to have no greater toxicity than that of ordinary urine. He also found that the toxicity increases during labor that the urine during puerperium is

somewhat more toxic than it is during normal pregnancy but less toxic than urine during labor. The urine of women with eclampsia is extremely toxic. This is true in those cases in which there is no damage to the kidneys as in those in which the kidney is affected. By determining the exact toxicity of the urine the author endeavors to fix prognosis on an exact basis and to control therapeutic procedures.

The conflicting results of Franz and Esch led the author to repeat some of the experiments. Intra-peritoneal and intra-venous injections of urine of pregnant women, often in labor and in puerperium gave no clue to the presence of albumin decomposition (toxemia) and his results agree with those of Esch. The results of intra-venous injections of urine from eclamptic women are (1) It was impossible to kill a normal by intra-venous injections of eclamptic urine (2) It is not possible to get a clinical picture of the effect of such injections (3) the decrease in temperature had no direct relationship to the clinical progress of the disease. There is no characteristic type of temperature and the degree of damage done to the kidney had no direct bearing (4) In no instance was it possible to get a clue to the presence of decomposed albumin. *Hirano*

Zeppl Consideration of the Treatment of Abortion (Consideration des traitements de l'avortement). *Chirurgie* 93 IV, 30
By Zentrals. f. d. g. Gynäk. Geburtsh. u. Gynäc.

On the basis of 44 cases from his practice the author adheres to the following principles: (1) In threatening spontaneous abortion a high expectancy (2) In purely criminal cases or such in which the suspicion of criminal interference exists, immediate interference (3) In spontaneous abortion in progress under favorable conditions (integrity of the product and good asepsis) liberal expectancy (4) In opposite conditions, immediate interference. He advocates instrumental curettage and states its advantages over the digital method. He concludes that his views will not be accepted by obstetricians working under ideal conditions. Clinics and mention the difficulties encountered in general practice such as lack of trained assistants, unfavorable conditions, lack of intelligence on the part of patients, especially among the laboring class, one being compelled to proceed actively to shorten the period of disability. *Schmitt*

Traugott End Result of the Conservative Treatment of Streptococcus Abortus (Endresultat der konservativen Behandlung des Streptokokken-Abortus). *Deutsche Gesellschaft f. Gynäk. u. Geburtsh.* 93 May
By Zentrals. f. d. g. Gynäk. Geburtsh. u. Gynäc.

The bacteriological examination of the uterine lochia of all the cases of abortion has shown the correctness of placing the indications for treatment on bacteriological examinations according to the proposition previously made by the author. All of the clinically treated cases of abortion, in which no kind

of bacteria were found present in the lochia secretion, are divided into two groups: 1. Abortions with obligatory saprophytes (resorption fever, bacteriotoxic endometritis) which were always emptied by the hand without the use of instruments (46 cases recovered without any adnexal inflammation, metastases or deaths). 2. Abortions with streptococci with hemolytic staphylococci and gonococci, in which conservative treatment reduced the morbidity as compared with active treatment, from 4. per cent to .9 per cent and the mortality from 8 per cent to .3 per cent. The indications based on the bacteriological findings also hold good for aseptic abortions, the mortality being reduced by the conservative treatment from 7.5 per cent to .9 per cent.

Minkoff and Zernack Pregnancy During Leukemia and Its Influence on the Composition of the Blood (Schwangerschaft bei Leukämie und deren Einfluss auf die Blutszusammensetzung). *Recht* 1912, 93 XII, 301.

By Zentrals. f. d. g. Gynäk. Geburtsh. u. Gynäc.

The patient, a 33 years old and suffered from leukemia since 1903 which markedly improved after X-raying and internal treatment. January 31, 1912 the X-raying was interrupted on account of nephritis and severe X-ray burns. Pregnancy occurred in May 9 and the patient was spontaneously delivered of living child in February 1912. The general condition of the patient became worse on the sixth day of the puerperium. Rise in temperature, loss of eight and enlargement of and pain in the spleen appeared. The patient was treated with radium, iron and mende. An improvement took place at the end of April, 9. The results of the blood examination, since the beginning of the disease are tabulated. The hemoglobin percentage decreased from 65 to 54 per cent before the occurrence of pregnancy and to 45 per cent during pregnancy. The number of red blood corpuscles fell from 3,104,000 to 2,000,000 to 1,500,000 or 3,000,000, while the leucocytes rose from 10,000-6,000 to 20,000-20,000. The differential count was 70 per cent to 75 per cent polymorphous neutrophils, per cent to 4 per cent myelocytes and large mononuclear cells, the homogeneous protoplasm. During labor the hemoglobin percentage grew to 55 per cent with 2,500,000 red blood corpuscles, the whites to 7,000, chiefly neutrophils, while the number of eosinophiles and basophiles decreased. During the puerperium the hemoglobin percentage rapidly sank from 55 per cent to 45 per cent and the number of red blood corpuscles from 2,500,000 to 1,500,000. At the same time polycytes, polychromatophiles, oligochromatemia and nucleated red blood corpuscles appeared. With improvement in the general state of health occurring during April, 9 the hemoglobin percentage increased to 45 per cent, the number of reds to 2,500,000, the number of all blood corpuscles was 3,500,000. The increase in the leukemic character of the

blood during pregnancy was attributed by the author first to the tendency of the leucæmic blood to again adopt its former composition after the interruption of the X-ray treatment and second to the complication with pregnancy. A section through the entire thickness of the placenta shows a microscopic examination a characteristic picture. The blood in the vessels of the chorionic villi (fetal blood) shows a normal behavior. The blood of the intervillous spaces (maternal blood) is typically leucæmic.

BRAUNE.

Albert. A Case of Severe Purulent Endometritis in Pregnancy (Schwere eitrige Endometritis in der Schwangerschaft). *Deutsche Gesellschaft f. Gynäk. Heile*, 9. 3. May.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Grenzgeb.

Albert reports another case of severe purulent endometritis in pregnancy. A multipara, delivered spontaneously within three-four hours, was suddenly seized with eclamptic-like symptoms and died five hours after delivery. At the autopsy the liver showed typical eclamptic changes and the kidneys nephritis; otherwise no important changes. The genitalia were removed in toto and immediately placed in formalin and later sectioned. The macroscopic examination also showed suppuration disease of the decidua with merous gram-positive diplococci. The diagnosis was suppurative endometritis intra graviditatem probably the cause of the nephritis and eclampsia. If this observation is correct, complete resolution must occur in considering the etiology of the toxæmias of pregnancy of some portions of premature labor and of many cases of puerperal fever.

Broeggerman. Treatment of Pyelitis in the Pregnant (Die Behandlung von Pyelitis bei Schwangeren). *Nederl. Tijdschr. Geneesk.* 9. 3. 1900.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

Two cases of pyelitis during pregnancy are reported. The first one recovered after the daily use for 4 days of renal pelvis irrigations with a 3 per cent boric acid solution and 1 per cent silver nitrate solution. The second one had to be treated by permanent catheterization. The labors were normal in both cases; mother and children remaining well. Broeggerman arrives at the conclusion that in milder cases of pyelitis complicated with pregnancy internal and dietetic treatment with lateral position on the healthy side and in the graver cases renal pelvis irrigation eventually continuous catheterization, are indicated. No ever nephrectomy and premature induction of labor are to be considered.

STRAUS.

Green. Cholecystitis and Cholelithiasis Associated with Pregnancy. *Annals of S. S.* 9. 3. 1900, 679.
By Surg. Gynec. & Obst.

The author reports two cases and concludes that there seems to be definite causal association of

cholecystitis and cholelithiasis with pregnancy. Symptoms due to either of these conditions may occur during pregnancy during puerperium following labor at term or after miscarriage. The existence of gall bladder disease is not in itself a cause of miscarriage, but miscarriage may induce the development of active symptoms from a process previously latent. Cholecystitis or cholelithiasis should receive the same surgical treatment and bear the same prognosis as in cases not associated with pregnancy.

C. H. DAVIS.

Vogt. Addison Disease and Pregnancy (Morbus Addisonii und Schwangerschaft). *Deutsche Gesellschaft f. Gynäk. Heile*, 9. 3. May.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

Clinically Addison's disease is difficultly diagnosed. Only two cases of Addison's disease and pregnancy which were confirmed by post mortem examination have been reported in literature, one by Barlow and one by Vogt. The course of pregnancy was undisturbed and the adrenal disease did not grow worse. Labor was spontaneous and uncomplicated. Women suffering from Addison's disease are exposed to greater danger during early puerperium than during pregnancy and labor. The course of the disease in the puerperium is similar to that of secondary and pernicious anemia and in some cases of tuberculosis during pregnancy. It has not yet been decided whether death is due to insufficiency of the adrenal system or to tuberculosis of the adrenal glands. The existence of Addison disease does not give an indication for an interruption of pregnancy as pregnancy does not cause an advance of the disease. Our endeavor should be to save the child which may develop perfectly, as the prognosis for the mother is bad under all circumstances.

Dress. Pregnancy Labor and Puerperium in Case of Extensive Unilateral Telangiectases and Varicose Formation with Lymphatic Elephantiasis (Schwangerschaft, Geburt und Wochenbett bei ungedehnter halbseitiger Teleangiectasie und Varicosebildung mit lymphangielastischer Elephantiasis). *Berk. Klin. Wochenschr.* 9. 3. 1. 1900.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

The author reports the case of a primipara aged twenty-three, giving a detailed description of the changes on the body and showing a picture of the limb. He also renders a complete account of the pregnancy labor and puerperium. During the puerperium the skin changes did not improve materially. Prophylaxis against thrombus formation is important in this stage (elevation of the affected limb, immediate movement and stimulation of the circulation, early rising and walking of the patient). He gives a complete review of the literature. In all published cases the abnormality dates back to birth and is aggravated during puberty and after trauma. The etiology is entirely unknown, but an involvement of the nervous system is probably present.

EISENHACK.

Mosbacher Thyroid and Pregnancy (Klinisch experimentelle Beiträge zur Frage Thyreoidale und Schwangerschaft) *Deutsche Gesellschaft f. Gynäk. Heilk.* 9.3. May By Surg. Gynec. & Obst.

Pregnant animals abort when fed thyroid. Thyroglándol causes uterine contractions in rabbits. When this reaction fails it can be brought out by previously giving adrenalin. Adrenalin activity is enhanced by doses of thyroid. Labor pains can be increased and strengthened by thyroglándol which is combined with adrenalin and gives similar results to pituitrin. Iodine in organic combinations can be demonstrated in eclamptic blood. Observations on a large number of animals deprived of thyroid lead Mosbacher to conclude that reproduction is not disturbed by loss of thyroids and parathyroids, if the animal is otherwise healthy. J. R. MINER

Graff Thyroid and Pregnancy (Schilddrüse und Gestation) *Deutsche Gesellschaft f. Gynäk. Heilk.* 9.3. May By Surg. Gynec. & Obst.

Six hundred and fifty-four cases in the second half of pregnancy were examined. Enlargements of the thyroid were noted in three hundred and nineteen or 49 per cent. only twenty-one said the enlargement began in pregnancy. Twenty-four said the tumor had been smaller and had increased more or less during pregnancy. Venous women had enlargement in only 24.4 per cent of the cases. Five hundred non-pregnant women showed an enlargement of the thyroid to the extent of 40 per cent. hence pregnancy would account for only 9 per cent of the enlarged thyroids. During labor 35 per cent of the cases measured showed an increase in the neck circumference, of whom 60 per cent had no enlarged thyroid. Such enlargements recede in a few hours, but in a few cases there was no decrease, fact noted by many women.

Spontaneous glycosuria was found in 38.8 per cent of five hundred postpartum women, 5.8 per cent with struma, 5 per cent without. A lowered tolerance for alimentary glycosuria was noted in 58 per cent as against 24 per cent of the cases with struma who had no struma. Albuminuria however occurs in 16.6 per cent and 1 per cent respectively. Eclamptic cases have enlargements of the thyroid less often than normal ones.

Ovary tablets had no action on the struma. In one hundred cases in the postclimacterium, only noted enlargement of the thyroid in the climacterium. In one hundred and twelve myoma cases the thyroid as enlarged less frequently than normally contrary to Freund. J. R. MINER

Aschner Changes in the Placental Glands of Pregnancy (Schwangerschaftsveränderungen der Eihilddrüse) *Deutsche Gesellschaft f. Gynäk. Heilk.* 9.3. May By Surg. Gynec. & Obst.

Guinea pigs, rabbits, dogs and rats were examined 1 pregnancy after castration and in the normal state. In cats the vaginal gland is conical shaped

whereas in pregnancy it is plumper and broader. After castration atrophy takes place. Once pregnant, the animal nerve regulates the typical cone shaped gland. Histological changes are not very characteristic. Aschner refers to similar work by Balach and Holmes, and the observation of precocious sexual development in connection with tumors of the placental glands described by Marburg and Frank-Hochwart. J. R. MINER

Seitz Disturbances of Metabolism in Pregnancy (Labor und th. Puerperium (Die Störungen der inneren Sekretion in ihren Beziehungen zu Schwangerschaft, Geburt und Wochenbett). *Deutsche Gesellschaft f. Gynäk. Heilk.* 10.3. May By Surg. Gynec. & Obst.

() Proteid. The thyroid chromaffin system, hypophysis and ovary increase, and the pancreas and parathyroid decrease, proteid metabolism. In the second half of pregnancy there is retention of proteid. In the puerperium there is at first loss, then a retention occurs. Less urea is excreted in pregnancy but the ammonia, creatin, amino acids and polypeptide are increased. A liver insufficiency has not been proven but is possible. Sarcotactic acid is secondarily increased in eclampsia. Placenta of the same species may cause anaphylaxis in the mother (fetal serum, however does not. Not only the molecular proteid components, but diastase, cyclic and amides, cause anaphylaxis, the former more generally, the latter paralyzing in its effect the latter causing spastic symptoms. Clinically there are two types of symptoms, the generally toxic and the specific. At present it is impossible to separate disturbances in proteid metabolism into two groups, anaphylaxis and internal secretory disorders. The antitryptic ferment in the blood is increased in pregnancy not specifically however. Abderhalden's reaction is not absolutely specific and must be further tested in the clinic.

(b) Carbohydrate. The thyroid hypophysis and chromaffin system increase the sugar metabolism the pancreas and probably the ovary and parathyroid tend to check it. A light transitory glycosuria occurs in about 1 per cent of the pregnancies. A lasting glycosuria is rare. In pregnancy sugar appears more frequently in the urine after the ingestion of 50-50 gm. of grape sugar. Subcutaneous injections of adrenalin do not cause glycosuria more often in pregnancy. Larrousse's tests show only a slight decrease in the liver function. The sugar content of the blood is not increased in pregnancy but is in labor. A carbohydrate disturbances appear in eclampsia. Diabetes mellitus influences menstruation in various ways only 3 per cent of cases become pregnant. Diabetes cases are often made worse by pregnancy probably due to the affection of the internal secretions. 30 per cent of the cases die in coma, and about 50 per cent of the children die in utero. Pregnancy should be interrupted in cases which become worse in spite of treatment.

(c) Fat. Pregnant women cannot catabolize fat as well as normally and acetonaemia occurs more frequently. A decrease in the lipolytic serum ferment has not been shown in the last six months of pregnancy there is hyperlipemia both glycerol and cholesterol fat are increased. In the puerperium, cholesterol is excreted by the breasts. Functionating genital glands appear to decrease the cholesterol formation however it is not justifiable to judge the function of the ovaries by the cholesterol. It has not been shown definitely that an increase in cholesterol in the blood favors the advance of tuberculous in pregnancy. The increase of cholesterol in eclampsia must be corroborated. The liquid body in the blood which causes the oedema reaction is increased in pregnancy and also in carcinoma, toxæmia, eclampsia and other conditions. Obesity is due to over-feeding lactation and also to disturbances of the internal secretory glands especially the thyroid secretion. The removal of the genital glands predisposes to obesity. Obese periods, especially the endogenous type are often sterile. A particular trouble is to be expected at labor.

(d) Mineral. The proof of clear relation of mineral metabolism to the internal secretory glands is insufficient. There will soon doubt that calcium and phosphorus metabolism is increased or that calcium is increased in the blood. Removal of the parathyroid seems to reduce calcium metabolism. The thyroid hypophysis, thymus and perhaps the parathyroid increase bone metabolism in the ovaries decrease it. The adrenals have no influence in this regard. A physiological osteocalcemia in pregnancy has not been proved. In pregnancy calcium phosphorus and magnesium are retained. The body accomplishes this by better resorption lessened excretion and more economic metabolism. The hypophysis probably under the influence of the foetus, normally causes an increase in the bony development of the pelvis in pregnancy.

RELATION TO PREGNANCY OF THE INTERNAL SECRETORY GLANDS, NORMALLY AND PATHOLOGICALLY

Thyroid and pregnancy. The thyroid increases in size in 65-90 per cent of pregnancies, usually returning to normal in late puerperium. This is due to hypertrophy and hyperplasia of the secretory tissue. Puberty and menarche enlargements are due to an ovarian hormone. Pregnancy hypertrophy of the thyroid is brought about by placental substances. Castration hypertrophy is a complementary reaction. The thyrotoxic theory of eclampsia is tenable proof is likewise lacking for its connection with hyperæmia and puerperal psychosis.

Basedow's disease and pregnancy. Light forms of hyperthyroidism are common in women. Raynaudism and chlorosis should not be confused with it. The thymus is often affected at the same time. Persistent thymus being serious complica-

tion. The chromaffin system is altered in hyperthyroidism. A somotor and other sympathetic groups are more sensitive. Sympatheticotrophic individuals are more affected than vagotrophic. The ovarian function is usually not disturbed in Basedow's disease. If at all it is reduced and these patients are more often sterile. In 4 per cent of the hyperthyroid cases no changes occur in pregnancy. In 60 per cent of combined statistics the condition is made worse. Pregnancy is not to be reckoned as specifically injurious. Premature birth and abortion are seen more often than in non-pregnant women. Statistics give 6.4 per cent mortality for pregnancy in hyperthyroidism, heart injury, persistent thymus and general intoxication causing the deaths. Abortion was performed in 4 per cent and premature labor induced in 8 per cent. Atonic hemorrhage occurred in 7 per cent of the cases, caused by decreased coagulability of the blood. Children are little endangered, but can inherit a neuropathicanlage.

Concomitant surgery is to be withheld in bad cases. In light cases delay should be urged till improvement takes place. Every hyperthyroid must receive general treatment. If the condition grows worse strumectomy and not abortion is indicated.

Struma and pregnancy. Struma is usually enlarged in pregnancy only a few however cause compression symptoms. If this occurs strumectomy is indicated. If the child is viable the force lies between strumectomy and induction of labor. Most of the compression symptoms recede after birth. In 5 cases of strumectomy in pregnancy the maternal mortality was 1 per cent in 6 per cent pregnancy was interrupted.

Parathyroid and pregnancy. The parathyroid seems to be connected with calcium metabolism. No morphological changes in the gland during pregnancy have been shown. In the last months and especially in labor the galvanic excitability of the nerves is increased, this indicating similar changes to those seen in tetany. Patients with asthma or paralytic in the extremities should be tested for galvanic excitability. The condition may possibly be a latent tetany or parathyroid sclerosis. Tetany of pregnancy is rare. Those reported in the last fifteen years are almost all in pregnancy and not in lactation. This condition is probably parathyroid insufficiency as these glands have increased work to do in pregnancy. In tetany of pregnancy injuries of other internal secretory glands are found, and the disease is very severe especially attacking the respiratory muscles. The mortality is 7 per cent. The therapy should be parathyroidin and calcium. When the respiration is seriously threatened pregnancy should be interrupted although this often does not give results. Eclampsia is not dependent on these glands.

Thymus and pregnancy. Persistence of the thymus may stimulate Basedow's disease. The chief symptoms are heart disturbances and lymphocytosis. The ovary exerts an antagonistic influence over the thymus. A persistent thymus is said to grow smaller

in pregnancy. More attention should be paid to status lymphaticus.

Hypophysis and pregnancy. The anterior lobe of the hypophysis regularly undergoes considerable hypertrophy in pregnancy, and is due to an enlargement and increase in the chief cells with their transformation into the so-called pregnancy cells. Resection of the whole gland in animals causes cessation of genital growth and injury to the fully developed ovaries. Further work is necessary to corroborate Aschner's work, that the hypophysis is absolutely necessary for the existence of pregnancy. The increase of the anterior lobe probably assists in the growth of the placenta and perhaps of the pregnant uterus. Marked hypertrophy in pregnancy may lead to cerebral symptoms. Symptoms of acromegaly occasionally occur such as enlargement of the hands and feet and the typical acromegaly can begin in pregnancy (Marek). Acromegaly usually leads to amenorrhea and sterility but if pregnancy occurs it need not be interrupted. The posterior lobe has up to now shown no hypertrophy in pregnancy. Pituitaria from the posterior lobe increases the labor pains if already present. Pituitrin is chemically closely related to B. imkiazolythylamin.

Adrenal and pregnancy. The adrenal in pregnancy undergoes hypertrophy in the fascicular and reticular parts of its cortex. The occurrence of vacuoles and the increased pigment in the reticular cells means increased secretion. Changes in the cortex in toxemias of pregnancy need to be studied further. The cortex contains more cholesterol than normal, indicating that it is the seat of the lipodermis. The medulla hypertrophies little if any. The adrenals are absolutely necessary for conception, pregnancy and labor pains. The proof of an increased amount of adrenalin in the blood in pregnancy is insufficient. The pigmentation of pregnancy is probably connected with the increased adrenal function. Addison disease, ovarian function is disturbed and sterility is the rule. Tuberculosis is responsible for the serious effect of pregnancy in Addison's disease.

Ovary and pregnancy. The internal secretion of the ovary protects the development of the female characteristics. The corpus luteum probably (Born Fränkel) starts menstruation, and prevents further ovulation. It also is very important for the implantation of the ovum. One should examine cases of habitual abortion for irregular corpus luteum growth. Its function lasts only during the first month of pregnancy later in pregnancy the internal glands develop. They probably work synergistically with the corpus luteum, and, by analogy with the interstitial glands in the male, probably govern the sexual desire. Changes of the interstitial glands in pregnancy are stimulated by placental villi. The pathological overgrowth of villi in moles and chorio-epitheliomas bring about lutein cysts. Ovulation ceases in pregnancy as rule. The relation of corpus luteum to hyperemesis is unexplained.

Osteomalacia and internal secretion. Osteomalacia shows changes in muscle and nerves as well as in the bones. Animals with calcium free diet do not present the real picture of an osteomalacia. Calcium and phosphorus experiments have not given clear results. Castration cures 87 per cent and in the puerperium 93 per cent improve. Definite morphological changes in the ovary have not been proven. Clinically the disease is due to a hyperfunction of the ovary. Disturbances of other glands of internal secretion often occur and predispose to osteomalacia. Hunkicker's hyperthyroid theory is untenable. Osteomalacia has not been produced by resection of the adrenals, yet. Adrenalin cures 44 per cent and improves 50 per cent of the cases. I. Identifies the ovary and chromaffin system as antagonistic. The disease may be due to decreased chromaffin activity (Christofaletti). The parathyroids show hyperplasia, and tetany often occurs together with osteomalacia. Phosphorus treatment cures 62-78 per cent. Exogenous factors play an etiological role only.

Mammary glands and pregnancy. Growth of the breast is influenced by a hormone, the nerve reflex theory being untenable. Febrile hypertrophy and the menstrual changes are governed by the internal secretion of the ovary. The hypertrophy of pregnancy can be artificially produced by the injections of embryological tissue and of placenta. The breast and ovary are antagonists. Outside of this, no internal secretion has been proved for the mammary gland. Cholesterol ester is excreted with milk. The relation of oestrogen to the mammary internal secretion is not clear, and analogy with cattle paralysis is not to be accepted.

Placenta. The placenta is an organ of internal secretion producing (a) changes in other glands in pregnancy (b) chorio-epitheliomas and moles in association with lutein cysts in ovaries, (c) changes in the breasts of pregnant women and in the breasts and testes of the new-born. Further action by means of deported villi causing ferment and asphalactic reaction, is now being worked out.

J. R. MINNA.

Krause: Heart Lesions in Pregnancy (Herdiker and Schwannschacht). Deutsche Gesellschaft f. Gynäk. Halle, 1912, May.
By Sarg. Gyrec. & Obst.

Among 23,577 labors, pregnancy was interrupted 26 times for vitium cordis, (6 times for mitral insufficiency and stenosis, 3 times for diseases of the aorta and 7 times for myocarditis) with deaths—0.002 per cent. Light cases should be treated with rest and control of the heart and up. gr. of the urine. If the symptoms do not disappear in two days or when broken compensation is present, give medical treatment. If edema, cyanosis and urine of high sp. gr. continue, interrupt pregnancy. The condition is complicated with nephritis, struma, etc., in one half of the cases. Classical Caesarian section is to be preferred to the vaginal.

J. R. MINNA.

Aachner: Albuminuria in Pregnancy (Untersuchung über die Schwangerschaftsalbuminurie)
Deutsche Gesellschaft f. Gynäk. u. Heb., 913, May
 By Surg. Gynec. & Obst.

Aachner examined, by means of Abderhalden's serum reaction, the urinary albumin of pregnancy nephritis and eclampsia. The eclampsia albumin is digested by pregnant serum. Eclampsia serum does not digest the eclamptic albumin as well as the pregnancy albuminuria product corresponding thus with the placenta reaction. Thus the albumin of pregnancy toxemia differs from that of nephritis.

J. R. MINER.

Baloch: Researches Concerning the Heredity of Pregnancies Complicated by Heart and Kidney Lesions (Untersuchungen über das spätere Schicksal hereditär und nervenkranker Schwangerer)
Deutsche Gesellschaft f. Gynäk. u. Heb., 913, May
 By Surg. Gynec. & Obst.

The author examined 305 heart and 50 kidney cases as well as 450 cases of pregnancy kidney occurring in the last 2 years among 2,000 births. The kidney of pregnancy presents no complications. Nephritis of pregnancy occurred in 26 cases, 7 per cent 37 per cent of these are eclamptic. Only one of the complicated nephritis cases died, due to myocardial degeneration, 4 per cent went through normal pregnancies, 1 per cent of the children were dead and the rest premature. Operative labor was necessary in 55 per cent and premature separation of the placenta often occurs. In 20 nephritic cases which were controlled 9 died in the first year 6 out of 60 eclampsia cases died and 1 per cent remained invalids. In 15 cases of Bright's disease, 4 died in the clinic and during the next year. Interruption of pregnancy is indicated in chronic nephritis, but in acute nephritis viable child can be waited. Two hundred women with valvular lesions developed decompensation, one fourth of them serious 5 died during labor and 3 in the following year. Of the controlled cases 50 per cent were well, 45 per cent were invalids and 5 per cent were dead and third of the children were premature. Five out of 9 cases of myocarditis died in labor and the following year. Atonic hemorrhage occurred in 40 per cent of all heart cases. Myocarditis or heart lesions complicated by nephritis are indications to interrupt pregnancy.

J. R. MINER.

Schlager: The Interruption of Pregnancy in Diseases of the Kidneys (Schwangerschaftsunterbrechung bei Nierenerkrankung)
Deutsche Gesellschaft f. Gynäk. u. Heb., 913, May
 By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The differentiation of the kidney of pregnancy from genuine nephritis, according to the author, is misleading, and in many cases impossible. He questions the advisability of making clinical entity of the former. He believes a better working basis is obtained by differentiating the nephritides accord-

ing to their influence upon the organism, as valuable conclusions may then be drawn as to when an interruption of pregnancy is justified.

Schlager lays down the indication for and against abortion and premature labor. He employs the simple method of observing the daily excretion of the kidney on a definite diet, by which definite conclusions in regard to the diseased kidney can be drawn. This method will also show that a seemingly harmless kidney of pregnancy in spite of the disappearance of albumen, has not recovered entirely but has only become latent. Baloch's conclusions are identical with those of the author that kidney changes of pregnancy more frequently result in permanent kidney disease than heretofore supposed.

Puche: Bilateral Ovariectomy during Pregnancy (Doppelseitige Ovariectomie in der Schwangerschaft)
Monatsschr. f. Geburtsh. u. Gynäk., 913, xxviii, 513.
 By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

A multiparous patient whose last menses began Sept. 20th was operated on Nov. 7th for the removal of bilateral pseudo-mucinous papillary cystadenoma. Pregnancy was interrupted three months after operation. The author advises the removal of both ovaries in all cases of papillary tumors during pregnancy even though one ovary appears perfectly healthy macroscopically unless the patient, to whom the matter has been thoroughly explained, is decided against castration.

Zimmer.

LABOR AND ITS COMPLICATIONS

Eich: How Many Full Term Children in Cephalic Presentation Pass the Inlet Spontaneously in Flat Pelvis and are Born Alive (Wie viele ausgetragene Kinder passieren beim flachen Becken in Schädellage spontan den Beckeneingang und kommen lebend zur Welt?)
Deutsche Gesellschaft f. Gynäk. u. Heb., 913, May
 By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The usual contrast between spontaneous births and those terminated by operation does not permit reliable conclusions to be drawn as regards the influence of flat pelvis. This contrast is also unsatisfactory from a therapeutic standpoint, as the indications for operative interference in cases of flat pelvis, excluding funnel pelvis, are the same as in the normal pelvis. Hence Eich chose the normal cephalic presentation to answer the above question, the mechanical influence of flat pelvis being the most favorable in this presentation. Only such cases of his own and of the literature were considered which were treated expectantly until danger to the child arose. In cases with a conjugata vera of 10 to 9.6 cm. 37 (96 per cent) children passed the inlet spontaneously in cases with a vera of 8.5 to 7.6 cm. 487 (74.7 per cent) children entered spontaneously and in cases with a vera of 7.5 to 6.5 cm. only 20 (4.9 per cent) entered spontaneously.

Eich draws the conclusion that the curve thus obtained represents the results of cephalic presenta-

tions in flat pelvis most accurately. It advises the use of the curve especially for teaching purposes.

Treub Breech Presentations in the Amsterdam Clinic for Women from 1902-1911 (Die Stuhliglagen am der Amsterdamsche Vrouwenklinik von 1902 bis 1911) *Nederl. Tijdschr. Verlosch. u. Gynaec. Huzarens*, 9, 3, 201, 3.
By Zentralfbl. f. d. ges. Gynaek. u. Geburtsh. d. Grenzgeb.

With regard to the opinion of J. A. der Hoeven, who rejects the external prophylactic version in breech presentations, being in favor of watchful expectancy until extrusion of the os, Treub has reviewed his material on this question. In the last ten years, out of 543 births 24 were breech, from which 331 live and one birth of triplets are subtracted. This gives a percentage of 3.7 per cent. There were 95 full term babies, 74 premature children and 5 macerated. Of the full term babies, 65 were from multiparae and 30 from primiparae. Of the 65 multipara children, 11 died soon after birth and 4 later giving a mortality of 5 per cent. Of the primipara children 6 died soon after birth and 1 later leaving a mortality of 4 per cent.

In 7 cases out of 24 the external version was performed and in 4 it was not successful. There were three cases in which the child could have died without version. Extraction was done in 6 cases, and all the babies lived. 1 case which was spontaneous prior to the os, all babies are dead or deeply asphyxiated. J. A. der Hoeven's smaller statistics show better results but do not prove the correctness of the method but merely that his series of cases is more successful. Treub still is firm adherent of the external version and also the extraction by one foot. SIX 75

Björkenheim Case of Rupture of Vaginal Fornix during Labor (Zur Kenntnis der Kolpoperforation post partum) *Zentralfbl. f. Gynaek. u. Geburtsh.*
By Zentralfbl. f. d. ges. Gynaek. u. Geburtsh. d. Grenzgeb.

The case is of a woman, 37 years old, octipara. Preceding labors were normal and easy. Last menstruation occurred September 9. State of health during pregnancy as good. Labor commenced the afternoon of June 8. Rupture of sac during succeeding night. Strong bearing down pains occurred during the entire night, decrease in strength and frequency toward morning. The uterine os was completely dilated. Child's head was large, and freely movable above the pelvic inlet. As the fetal heart sounds were irregular and weak, repeated but unsuccessful attempts at delivery by forceps were made. Version and extraction of child succeeded easily. The head passed with the greatest difficulty through the upper pelvic aperture. The child was dead and was not weighed. Fracture of the clavicles and dislocation of cervical vertebrae. After waiting one half hour the physician made no attempts to express the placenta by Cribell. The uterus was well contracted and unusually small. Attempts were made to deliver placenta manually.

The hand was introduced into the vagina and attempted to reach the placenta along the umbilical cord. The hand entered a large cavity to the left of the empty uterus. The placenta was not reached but the hand felt intestinal loops through the opening. Tamponing of the vagina with gauze. General condition good. There was no sign of severe hemorrhage. The patient was transported by horse and wagon 20 km and made trip on the railroad of one hour to Helsingfors. Her general condition was quite good, no elevation of temperature, pulse strong, not accelerated. The umbilical cord led into the left vaginal. In the left parametrium and thence into the abdominal cavity. There was left lateral and anterior rupture of vaginal fornix (colpoperforation). Extraction of the placenta by umbilical cord without any marked loss of blood. After anesthesia laparotomy longitudinal incision. A wound 10 cm. long was found in the peritoneum in the place vesico-utero at the junction of vagina and uterus extending from before to the left side of the vagina. The vagina, however, anterior all was torn from the cervix to the extent of about 6 cm., communicated with the abdominal cavity. He then sutured the vagina to the cervix, the peritoneal tear. The parametrium was packed with iodoform gauze toward the vagina. The abdominal incision was closed in three rows with gauze drain in the lower portion of the wound. Perfect healing resulted. Convalescence as disturbed by right sided rodenticulic pueris. The patient was discharged, cured. HUNT

PURPERIUM AND ITS COMPLICATIONS

Loel A Contribution to the Etiology of Late Hemorrhages in the Puerperium (Beitrag zur Ätiologie der Spätblutungen im Wochenbett). *Zentralfbl. f. Gynaek. u. Geburtsh.*
By Zentralfbl. f. d. ges. Gynaek. u. Geburtsh. d. Grenzgeb.

The author discusses three cases of sudden hemorrhages in the late puerperium with pronounced tendency to recurrence. One of the cases was personally observed by him, the second occurred in the practice of a friend and the third has been reported by Moonen. All three cases were due to rupture of large arterial vessel by trauma during labor. The tissues surrounding the wound were closed either by suturing or spontaneous healing, yet the vessels remained open. A pseudo-aneurysm gradually formed beneath the freshly healed wound edges as a result of hemorrhage from the open arteries. Increasing pressure caused rupture of the freshly healed wound tissue when the patient was evidently recovering. The repeated hemorrhages finally led to death.

The clinical course of these cases is therefore characterized by hemorrhages occurring unexpectedly in the late puerperium, followed by an interval of complete arrest of the bleeding. The vital powers of the tissues gradually decrease due to exsanguination. An inclination towards infection of the

stagnated blood and the thrombi appeared. Finally death resulted from anemia. The only treatment indicated is extirpation of the uterus as soon as possible after the first recurrent hemorrhage.

JAKOBE.

Zangemeister Inversion of Uterus in Puerperium
von (Über puerperale Uterusversionen) *München
med. Wochenschr.* 23. 12. 05.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Inversion of the uterus in puerperium occurs once in 400,000 births, three times as frequently in primiparae as in multiparae, and ten times as frequently at full term as in premature births. Too early expression of the placenta and pulling on the cord are the most common etiological factors. Predisposing causes are short cord, precipitate labor, operative procedures, and adherent placenta. Occasionally an inversion occurs spontaneously. Inversion sometimes occurs without symptoms. Usually is accompanied by severe shock, and terrene hemorrhage. Septic infection occurs in 1 per cent. The mortality is 6 per cent. Treatment is as follows: Combat hemorrhage and shock, then replace uterus. In uncomplicated cases of inversion, tampon or colpeuryeter is placed in vagina, and a tight external compression is applied. In twelve to twenty-four hours the uterus is replaced manually, the hand removed, clot grooved, the uterus massaged. Three per cent of cases are reduced spontaneously. Operative interference is indicated when reduction is impossible or when complications occur.

RUTHER.

Zink A Critical Review of the Medical and
Surgical Treatment of Puerperal Eclampsia.
Lancet-Gaz. 213, 603.

By Serg., Gynec. & Obst.

The treatment of eclampsia demands not only a deliberate and thorough consideration of its pathology course and prognosis, but also study of the results of the various methods of treatment which have been employed in the past as well as those of to-day. About 50 per cent of all eclamptic cases develop during labor, 50 per cent during the 8th and 9th months of pregnancy and perhaps 15 per cent succeed labor. The severity, duration and frequency of the convulsions vary depending upon the character and extent of the changes in the maternal organism. The latter occur in the brain, cord, liver and kidneys. The lesions in the brain and cord are anemia or plethora, edema and hemorrhagic crusts. The changes in the liver and kidneys are not inflammatory but degenerative in character and consist of cloudy swelling, fatty degeneration and necrosis of the secreting glandular epithelium. The convoluted tubules are affected in the kidneys, the acini in the liver. Hemorrhages may occur in the periphery of the acini, and thrombi form within the later and intra-acinous branches of the portal vein. All the changes found within the body of the eclamptic dead indicate the presence of a poison or poisons.

Eclampsia is an auto-intoxication, due to an imperfect elimination of effete elements. This means an insufficient action of some or all the excretories of the body but more especially of the kidneys and liver.

Not knowing the character of the toxins which cause the convulsions, we can only solve the question of treatment by looking for an answer in the history not of the patient but of the disease. All authorities agree that in the majority of cases eclampsia results either from renal insufficiency from acute yellow atrophy of the liver or cerebral palsy. This explains the prognosis. If kidney insufficiency is the cause the patient may recover if acute yellow atrophy of the liver or extravasation of serum or blood into the brain or spinal cord, the patient almost invariably succumbs.

The foetal mortality in eclampsia depends in large measure upon the period of gestation and the manner and time of delivery after the onset of the disease. Premature birth, version and extraction and *accouchement forcé* are frequent causes of the death of the child. Even with the new methods of treatment, especially vaginal and abdominal hysterotomy and Bland-Schäfer the foetal mortality remains high—50 to 40 per cent.

A thor then points to the fallacies of emptying the uterus by surgical means as recommended by Habermas, Bumm, Peterson, McPherson and Davis. The treatment of eclampsia would be simple if the conclusions of these writers were correct. Peterson collected a total of 33 cases of eclampsia in 473 per cent the convulsions continued after operative treatment. In those cases where the convulsions ceased after delivery the mortality was 18.4 per cent, while in the cases where the convulsions continued the mortality numbered 38.4 per cent. The author then refers to his 30 cases treated medically only. The maternal mortality is 3.3 per cent, the foetal 46.6 per cent. Ballantyne reported 29 cases with a mortality of 17.5 per cent. Fern reported 6 cases with a mortality of 10 per cent. Rushmore collected 88 cases with a mortality of 20.4 per cent and Stroganoff reports 400 cases with a mortality of only 6.6 per cent. Thus the collective maternal mortality of the medical care of eclampsia of these five authors is only 10 per cent.

The result of the decapsulation of the kidneys for the relief and cure of eclampsia in 98 cases is, according to Poter, as follows: No attacks after decapsulation 42 times with 15 deaths, one to 6 attacks after decapsulation 7 times with 7 deaths, 7 to 1 attacks after decapsulation 4 times with 3 deaths, 1 and more attacks after decapsulation 4 times with 0 deaths. Indefinite number of attacks after decapsulation times with 10 deaths. In the total of 98 surgical operations the maternal mortality is 38 or 37.76 per cent. In Caesarean section there is a mortality of 7 per cent and with strictly medical treatment a maternal mortality of only 10 per cent. These figures speak for themselves and the conclusion is that surgery has contributed

little, indeed almost nothing, to the reduction of the maternal mortality from puerperal eclampsia. Assist labor but do not induce it, or treat the convulsions and let pregnancy take care of itself, is still good teaching. The author then considers the medical treatment of puerperal eclampsia which is divided into prophylactic treatment and curative treatment.

He sums up the curative treatment in the following points:

1. The hypodermic administration of 1 cc. of Norwood's tincture of veratrum viride, repeated hourly until the pulse is reduced to 60 per minute or less.

2. Copious enemata of soap-suds is given to wash out the large intestine; the bladder is catheterized; saline cathartic is administered as soon as the patient is able to swallow.

3. Hot baths or packs not oftener than twice a day.

4. Milk, broth, water.

5. Fischer's solution may be freely administered; the latter being given per rectum or if the case be an urgent one, intravenously.

6. Chloral per os or per rectum is given if the patient is restless.

7. If the patient is at the end of the first stage of labor and then only if the symptoms are grave, may forceps be employed to terminate labor.

8. If the first stage is not complete or if labor has not begun, and the patient has improved under the treatment above mentioned, the case is left to nature.

9. I cases of anemia or cachexia from any cause normal saline solution or Fischer's solution is given per rectum or intravenously.

10. In the presence of any condition, maternal or fetal, which makes the birth of the child per vias naturales hazardous or impossible, abdominal or vaginal Cesarean section, or deep cervical incisions, each depending upon the period of gestation and other circumstances, are justifiable.

MISCELLANEOUS

Döderlein. The Origin of Respiratory Movements in the Fetus (Zur Frage der Entstehung der Atembewegungen beim menschlichen Fetus). *Lah. reprinted* 9, 1, 4, 9.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

The author gives a résumé of the literature concerning the origin of the first respiratory movements of the new-born. He describes the periodic intra-uterine respiratory movements of Ahlfeld, and thinks there is an intimate relationship between them and the regular recurring respiratory rhythms of the child after birth. The author using the kymograph, has found that the respiration of the premature child corresponds intimately to the periodic intra-uterine respiratory movements of Ahlfeld while the respiration of the full term child resembles that of the adult more closely. The author considers the periodic intra-uterine rhythmic respiratory movements as an expression of primary automatic ability of the respiratory center and that the first extra-uterine and the following regularly recurring respirations are the end results of intra-uterine development of the respiratory apparatus. *Faulstich.*

Kawasoye. The Influence of the X Rays on the Fetal Membranes (Über die Einwirkung der Röntgenstrahlen auf die Eihäute). *Zentralbl. f. Gynäk.* 1913, xxxviii, 483.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

The diversified opinions of the harmful action of X-rays on the products of gestation induced the author to determine on pregnant guinea pigs, whether pathological changes could be produced in the fetal membranes by one or two applications of X-rays, as is done for diagnostic purposes in pregnant women. The necrotic foci which are histologically found in the decidua must be considered as physiologic, because they could also be demonstrated in the control animals which had not been X-rayed. Although a characteristic change could not be found in the gestation membranes and in the uterine walls, damage to the pregnancy by the X-raying was apparent. In seven cases an abortion was observed in the uterus three times, dead fetuses once and a macerated fetus once. The harmful action of the X-rays is also apparent in the necrotic areas in the fetal liver and spleen.

Mossm.

Aschorn. Demonstration of Fetus with Solid Embryoma of Coccys (Demonstration eines Fetus mit Strömestoma). *München. med. Wochenschr.* 1913, ix, 667.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

A primipara, 3 years old, was in the sixth month of pregnancy. Labor began spontaneously. A tumor could be felt extending upward four inches above the navel. Traction on the head of the fetus caused a voluminous discharge of an opaque fluid. The fetus was delivered with the exception of the breech when a tumor appeared almost the size of child's head. The fetus was macerated and showed the following anomalies: At the posterior pelvic wall behind the anus and genitalia broad shreds and strands of tissue are attached which continue into the skin of the fetus. These are remnants of the ruptured capsule of the cystic portion of the tumor. It is attached the solid portion of the tumor almost as large as a child's head. The placenta is twice as large as it should have been considering the duration of the gestation. According to the microscopic findings this tumor must be considered as an embryoma. Its unusual size is remarkable, the chief reason for the wrong diagnosis.

Kossm.

Trischess. The Time when Lentic Infection Occurs in the Fetus and Its Clinical Significance (Über den Zeitpunkt der lenticen Infektion des Fetus und dessen klinische Bedeutung). *Beitr. Geburtsh. u. Gynäk.* 9, 3, xviii, 201.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

The author presupposes that paternal infection does not occur and that an early infection of the fetus is hardly probable. On that account the organism must enter the fetus body in its later period, undoubtedly during the latter half of preg-

nancy. He takes the stand, and corroborates it with several observations, that lues is not a cause for abortion. According to his view there are always other causes for the abortion present, such as diseases of the endometrium and malpositions of the uterus. Neither can the death of the fetus due to lues cause an abortion, as spirochetes have never been found in them. Also in cases of premature labor the rôle of lues is important, being rare in living children and usually only in those born in the seventh month of gestation.

Two thirds of the luetic children are born during the last three months of pregnancy and most of them in the eighth month this percentage being considerably lower toward the end of gestation. Only 5.3 per cent of luetic fetuses are carried to term, most of these are born alive and show the typical signs of congenital syphilis. Fetal lues begins and ends in approximately 80 or 90 per cent of the cases during intra-uterine life, occurring in advance pregnancy as a rule. Hence 53.3 per cent of dead luetic fetuses are born between the eighth and tenth months. The child can only be saved through energetic mercury treatment of the mother success resulting then only if treatment is instituted before fetal infection occurs. Therefore, acute syphilis treatment should be instituted in all suspicious cases as soon as the diagnosis of pregnancy is made. Even if it is begun as late as the middle of pregnancy it may yet be life-saving. **BAYER.**

Seldin. A Case of Delayed Meconium Expulsion (Über einen Fall von verspäteter Meconium-Abgang). *Zeitschr. f. Kinderheilk.*, 1913, xxviii, 433.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäc.

A complete retention of meconium existed until the fifth day after birth during which time all food taken by mouth was immediately vomited, and the child lost weight rapidly. Enemas were given without result and operative interference was declined by the parents. After four days and eight hours there occurred spontaneous evacuation of a large amount of meconium, in which two glass-like mucous plugs of grayish green color were found. Immediate improvement and increase in weight followed. The meconium retention did not present the picture of a severe distention but rather that of complete obstruction. The author considers the mucous plugs the cause of the obstruction. The site of formation of the mucous plugs is considered in this case to be the cecal region. **ENEMERACH.**

Schlimgert. Experience with the Abderhalden Reaction (Erfahrungen mit der Abderhaldenschen Schwangerschaftsreaktion). *Deutsche Gesellschaft f. Gynäk., Halle*, 9. 3. May. By Song, Gynec. & Obst.

Sera from pregnant, non-pregnant, carcinomatous, or other patients should be examined together. In doubtful cases diagnosis is only to be made when all control sera are correctly diagnosed. Uterine, ovarian, myomatous, and carcinomatous tissue was not digested by the pregnant serum in nineteen

cases. Using different animal placenta with similar and heterogeneous sera, the results were as follows. Fifty-eight cases, in which sheep placenta was used, were correctly diagnosed in all but one instance. Twelve horse sera with horse placenta gave correct diagnosis in every case. Two pregnant horses gave sera which digested horse placenta. Since the horse placenta have no chorionic villi, the deportation of villi (Veit) cannot be responsible for the blood reaction. Human pregnant serum often digests animal placenta: the reverse being seldom true. **J. R. MILLER.**

Peters. Concerning Schottländer's Publications on the Determination of the Length of Pregnancy by Means of Histological Examination of the Placenta (Zur Publikation Schottländer's Über die Bestimmung der Schwangerschaftsdauer auf Grund histologischer Placentarbefunde und über einige praktische Verwerthbarkeit dieser Befunde). *Zentralbl. f. Gynäk.*, 9. 3. xxviii, 373.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Gynäc.

The presence of nucleated red blood corpuscles in the fetal blood vessels between the first and third months has long been a method of diagnosing the age of the egg. Further the presence of villi, the histology of the epithelium of the chorionic villi, together with the size of the egg would indicate whether two months had been passed since conception. From six months on histological findings of placenta are no longer a method of diagnosing the age of the fetus. Langhans cells begin to disappear from the chorionic membrane at the 5th week, from the villi at the 7th week, but do not completely disappear from the chorionic membrane for many weeks. Therefore, this is of no value in differential diagnosis. Thus there is left the period between the 15th-17th week, and Peters said it was absolutely impossible to make a definite diagnosis of this period by the examination of the placenta. Even if one could do so it would be of little value. **BAYER.**

Barr. Surgical Treatment of Hemorrhages of Pregnancy Labor and the Puerperium (Die chirurgische Behandlung der Schwangerschafts-, Geburts- und Nachgeburtsblutungen). *Gynäk. Rundschau*, 10. 2. vii, 163.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäc.

Barr shows by statistics how far and in which cases immediate surgical interference can replace the ordinary obstetrical methods. He cites 153 cases of abnormal implantation of the placenta and 4 cases delivered spontaneously despite profuse bleeding with no other treatment. There were ten cases of accouchement force, three delivered with forceps, without loss of mother or child. Six cases of version gave a maternal mortality of 16.66 per cent one case required craniotomy.

The author then takes up cases in which hemorrhage was treated primarily by tamponsade of vagina alone or in combination with other methods, by rupture of the bag of waters, by rupture of the bag of waters and colpoclysis, and by rupture of the

bag of waters with Braxton Hicks version. The mortality in cases of rupture of the bag of waters, without vaginal tamponade, was 5.83 per cent for the mother 44 per cent for the child. The mortality in sixteen cases where the bag of waters was ruptured followed by version and extraction was 6.25 per cent for the mother and 75 per cent for the child following rupture of the bag of waters and forceps the mortality was nil. In thirty-four cases in which the bag of waters was ruptured and a metrecruter inserted the maternal mortality was 5.83 per cent fetal 38.33 per cent. Following rupture of the bag of waters with metrecruter and version the mortality of the mother was 1 per cent, of the child 60.60 per cent. In one case in which the bag of waters was ruptured and metrecruter inserted extraction done by the forceps and both mother and child died. Rupture of the bag of waters with insertion of a metrecruter and amniotomy was followed by no maternal mortality. There were 4 cases in which the placenta was punctured and a foot pulled down, both the mothers being saved and both babies lost. In six cases there was manual dilatation of the cervix in three cases dilatation of the cervix with Brown's dilators, erosion and extraction, with a maternal mortality of 0, fetal mortality of 66.66 per cent. Thus the total maternal mortality was 0.9 per cent the fetal, 5.61 per cent. These results are not satisfactory. The 4 maternal deaths were the result of infection in ten cases and low cases were due to hemorrhage.

In order to shorten labor on account of hemorrhage, one should proceed vaginally in all cases that are infected. One should operate abdominally only when there is no sign of infection or when extirpation of the uterus has been determined upon. In thirteen cases of severe retro-placental hemorrhage Ba reports four deaths one due to hemorrhage two to emboli one to infection. Bar thinks that post partum hemorrhage due to an atonic uterus seldom needs surgical intervention. Cervical tears should be repaired if this is impossible, the vagina should be tamponaded. If hemorrhage continues, the patient should be laparotomized, and the injured vessels ligated.

HOFFER, VIENNA

Slemons Is Albuminuria Likely Recur in Subsequent Pregnancies? *Am J Obst & Gyn* 9: 5, 1916, 249. By Surg. Officer & Obst.

Slemons finds that about one out of every five or six women who have a high grade albuminuria in the first pregnancy suffer from an auto-intoxication in the second. In order to distinguish between those

who may expect recurrence from those who probably will not have any trouble he believes something may be learned from careful observation of the sort of recovery which the patient makes. If the albumin is reduced to a faint trace during the first week of the puerperium it is certain that there is no permanent defect in the kidney and that the outlook for normal conditions in future pregnancies is excellent. On the other hand, measurable amount of albumin persisting for six or eight weeks offers a very gloomy prognosis even if it ultimately disappears entirely. He believes more valuable opinion may be gained from an inquiry into the blood pressure findings of these women during their convalescence. Those cases with high blood pressure high retention of normal pressure during the course of 6 weeks, he considers have had an eclamptic instead of nephritic toxemia and are unlikely to experience a recurrence.

When the blood-pressure remains high for some time however some permanent damage to the kidney may be presumed and trouble in subsequent pregnancies anticipated. N. S. S. VIENNA, VIENNA.

Colloidal Action of Placental Extract upon the Vascular System and upon Blood Coagulation (*Atome degli estratti di placenta nel sistema circolatorio nella coagulazione del sangue*). Gazz. d. Med. d. 1916, Milano 29: 3, 270, 304. By Zentgraf, J. d. Gen. Gynak. u. Geburtsh. u. d. Gynäkol.

The author experimented upon rats with an extract made from the placenta of cats, guinea pigs, cows, and women by crushing and extracting with physiological salt solution. His conclusions are as follows: 1. With pure or slightly diluted extracts (1:1) the blood pressure occurs, with an increase in the force of the pulse without influence of the rate. 2. With more highly diluted extracts (1:30 to 1:100) decrease in blood pressure and pulse tension results. 3. Extract of placenta previously washed with normal salt solution is more active than an extract from placenta not previously washed. 4. With pure or slightly diluted blood extract blood coagulation is hastened, with highly diluted extract it is delayed. 5. With boiled extract filtered cold blood pressure is slightly raised, followed by a short period of lowered pressure. 6. The action is not constant and in human beings sometimes without action, but occasionally toxic, even in dilutions. 7. The capacity of rejection is important in if rapidly injected it may act fatally. 8. A tolerance is possible if the concentration be gradually increased the animal will tolerate large doses.

BERGHEIM

GENITO-URINARY SURGERY

KIDNEY AND URETER

Nowicki: The Relation Between the Chromaffin Substance and Adrenalin in the Suprarenal Capsules (O stosunek chromafiny do adrenaliny nadnerzki). *Prac. Inst. Fizj. i Pat. 9*, vol. 60. By Zentralbl. f. d. ges. Chir. 1 Grenagh.

The majority of authors assume that the adrenalin is elaborated in the cells of the medulla, is stored up there and also distributed from there. This process probably occurs in the feochrome cells. The object of the investigations was to determine if the chromaffin substance bore any relation to the adrenalin content. If its absence or increase could be utilized to determine hypo- or hyper-function of the suprarenals. A decrease in the chromaffin substance was produced by a long-continued chloroform anesthesia and bilateral nephrectomy. Suprarenals of dead animals were also used. The organ was measured, weighed, put in Müller's solution and treated in the usual manner. Watery extracts were prepared with cc of solvent to cc of the weight of the gland. The tests were conducted upon guinea pigs, according to the method of Län-Trendelenburg. Each experiment was accurately recorded. The results of the experiments prove that between the quantity of the grouping and pigmentation of the chromaffin substance on the one hand and the action of the extracts on the other there is definite relationship. Histologically it is also possible to determine the approximate adrenalin content by the behavior of the chromaffin substance.

Warriner

Löbenhoffer: The Physiology of Kidney Innervation (Physiologische über Nerveninnervation). *Deutscher Arch. 9*, 3. By Zentralbl. f. d. ges. Chir. 1 Grenagh.

Löbenhoffer emphasizes the fact that up to this time our knowledge of the dependence of the kidney on the nervous system has not been at all exact. The previously accepted teaching has been that the work of the kidney was regulated by nervous stimuli which are transmitted to it from centers in the brain or spinal cord through the many nerve fibers which enter the hilum of the kidney with the blood vessels. This view originated and was supported by the fact that the kidney secreted nearly as if stopped after section of these nerves also from the effects of stimulation of certain areas of the central nervous system and the peripheral stumps of the kidney nerves. In many experiments, the author seemed to see a contradiction to this teaching. Transplantation by suturing the vessels offered the best means for making physiological tests. The kidney

was transplanted to the pedicle of the spleen. It was then removed completely from all external nervous influence, but was kept in a normal living state. The other kidney was removed. The fact that animals with such kidneys remained alive a long time (he kept dogs under observation for nine months and one year) decided the question definitely.

By the aid of histological and physiological examination he found that the granulations of the protoplasm which is an index of the secretory activity of the kidney cells, corresponded completely to the picture in the normal kidney. Thus, there was no change on account of the severed connection with the central nervous system. With experiments on diuresis and secretion, he tried to test the activity of the tubular and vascular parts of the kidney substance. The water and salt output, and also the elimination of foreign substances, such as indigo-carmin, milk sugar and phloridzin, were entirely normal as shown by the curve. The transplanted organs were also able to withstand overloading. Hence it was shown that the kidney can carry out all its physiological functions by itself and that it is much more independent organ than hitherto believed.

Diuresis, especially, can only take place normally through the active functioning of the contractile elements of the blood vessels. This is undoubtedly caused by nervous stimulation, which must arise in the kidney itself, and can only come from the renal plexus, which has long been known to anatomists but not heretofore considered much by physiologists. The nerves entering the hilum have efferent tracts with regulatory functions, but no tracts with secretory fibers.

Abell: Renal and Urethral Calculi. *Ex. M. J.* 9, 3, 1, 406. By Surg. Gynec. & Obs.

This paper is based on the author's personal experience in 24 cases of renal and urethral calculi. Hematuria was present in 21 typical renal colic in 7 urinary frequency in 1 pyuria in 6. X-ray plates were taken in 9 cases, showing calculi in 17. The plates were negative in 3 cases where calculi were subsequently found. Spontaneous expulsion of calculi occurred in 6 cases. A careful determination of renal efficiency was made in each case. The author believes that primary stones, small enough to permit of traversing natural channels, are to be kept under X-ray observation at regular intervals until passed abundant diuretics hasten their passage. When impacted in ureters it is often possible to dislodge them with the ureteral catheter and their expulsion may be facilitated by the injection of olive oil into the ureter. Large primary stones

should always be removed by appropriate operation even in the absence of distress their presence constitutes a menace from possible obstruction, infection, and anuria.

HENRY L. SARGENT.

Barkley: Subperitoneal Rupture of the Kidney with Report of Cases. *Lancet-Chin.*, 1913, 475.
By Surg. Gyrec. & Obst.

The kidney is more often ruptured than any organ below the diaphragm the uterus not excepted. The rupture is usually transverse but may be vertical, oblique stellate, or pulsed. The peritoneal cavity is often exposed when the injury is on the anterior surface and in children. Subperitoneal rupture has a higher mortality than gunshot wound of same organ. In grave but uncomplicated cases there is mortality 5 or 30 per cent. When treated expectantly in operative treatment when delayed it is much higher and when complicated and treated expectantly the mortality is 9 per cent. In considering the prognosis the possibility of injury to other organs can not always be eliminated. The mortality in simple cases treated by pack, drain or suture is 55 per cent. the same treatment in complicated cases gives 40 per cent. mortality. Nephrectomy in simple cases has mortality of about 5 per cent. and in complicated cases over 4 per cent.

8. Bipolar rupture of the kidney occurs oftener than one would suppose from reading modern text books on surgery. It is seen most frequently between tenth and fortieth year and on the right side. Pain, hematuria and shock while usually present may not supervene immediately upon receipt of injury and in some severe cases are entirely absent. Urinary symptoms may vary considerably and normal renal function is not restored for some time after the wound has healed. In many cases it is impossible to differentiate by clinical symptoms slight from extensive rupture. The absence of evidence of serious injury should be established before temporizing or the expectant plan of treatment is employed. In cases of doubt early exploratory incision is the logical surgical procedure. In infected cases lumbar incision and drainage or nephrectomy give the best results. Suture of the kidney parenchyma in clean cases gives excellent results. In cases not complicated with other injury death is usually the result of shock, hemorrhage, or sepsis.

Verelker: Dilatation and Infection of the Renal Pelvis (Über dilatation und infektion des Nierenbeckens). *Zentralbl. f. allg. Chir., Leipzig*, 1913, 1, 2.
By Zentralbl. f. allg. Chir. u. Geburtsh. u. Gynäk.

Under normal conditions the renal pelvis are completely emptied at each contraction of the ureters. The demonstration of retained urine in the renal pelvis under pathological conditions becomes of the greatest importance for the determination of the anatomical and functional condition of the kidney and the renal pelvis. Two things must, first of all, be distinguished—the residual urine in the renal pelvis, and the pelvic capacity. Changes in the

latter only take place gradually and require long periods of time, owing to the slight elasticity of the walls of the renal pelvis. The anatomical renal pelvis, again, must be distinguished from the "surgical," which represents the sum of the hollow system, i. e. renal pelvis plus the renal calyces. The capacity of the "surgical" renal pelvis, which is normally 4-6 cc., can be determined by filling it, after previous evacuation, by means of a ureteral catheter. For a staining liquid collargol is used. The moment the pelvis is filled is indicated by the occurrence of pain in the region of the respective kidney and by the presence of collargol in the bladder.

This method of demonstrating the conditions of dilatation and retention is supplemented by pyelography (roentgenography of the kidney after filling with a 5-5 per cent. solution of collargol). This shows not only the position of the kidney, the size and any possible dilatation of the renal pelvis, but also reveals abscesses, cavities, kinks, curvatures and dilatations of the ureters. The collargol should be cold and free from gross particles. The respective kidney should first be completely emptied and then completely filled. The normal renal pelvis is usually empty and resists artificial filling. Pyelograms of the normal renal pelvis are therefore, indistinct and present faint outlines. Hence distinct contours in themselves are an indication of the first degree of dilatation.

The following forms of dilatation are to be distinguished: (1) Dilatation of the anatomical renal pelvis alone. (2) of the anatomical renal pelvis and the calyces. (3) of the renal calyces alone. The primary dilatation (pyelocystic nephrectomy and hydronephrosis) is caused by mechanical obstructions to drainage; by contrast the primary infection pyelogram shows no dilatations in the first stage. If the infection persists for some length of time, swelling of the mucous membranes of the renal pelvis and the ureters leads to dilatation of only the renal calyces. At a still later stage, abscesses are formed in the renal parenchyma, the so-called primary cavernous pyonephrosis or infection-pyonephrosis. From this must be distinguished the secondary or dilatation-pyonephrosis, which arises from chronic infection of an aseptic primary dilatation. An intermediate form is represented by the combined pyonephrosis, which results from a somewhat more marked aseptic primary dilatation with subsequent permanent closure. Clinically, this form is characterized by a marked septic condition pathologically by a marked dilatation of the anatomical renal pelvis and a pelvis filled with pus, by cavernous abscesses in the parenchyma. If the infection affects an already dilated renal pelvis, dilatation-pyocystitis results, which is characterized by a permanent pyuria and pain as in colic. The infection of healthy renal pelvis, on the other hand, is designated as infection-pyocystitis. This arises from bacteremia, the urine, during the intervals between the intermittent attacks, is free of pus but contains

many bacteria. The attacks appear cyclically and frequently without material pains in the kidneys or colic, while the general condition is good.

Therapeutically in dilatation-pyelitis irrigation of the renal pelvis by instillation of silver nitrate or collargol deserves chief consideration. Since in infection-pyelitis this procedure generally produces no results, it is better to resort to vaccine therapy.

FRANK.

G 6a. Symptoms of Intestinal Occlusion in Nephritic Colic (Des symptômes d'occlusion intestinale dans la colique néphrétique). *Bull. m. d.* 93, xxxv, 207. By Journal de Chirurgie.

During a nephritic colic with frequent attacks of pain followed by intervals of complete relief, tonic and paralysis of the intestines are apt to occur. In some cases this paralysis causes only slight distention of the abdomen but in others there is marked meteorism which may persist for some time or may recur after several days. This last condition often makes it very difficult for the physician or surgeon to reach an exact diagnosis. A surgeon recently suffered from such an attack.

This surgeon who was subject to renal crises had a series of attacks in which there was no nausea or vomiting and no radiation of pain along the ureters or into the testicles but severe gastro-intestinal cramps. These attacks, two in number were accompanied by complete inertia of the bowel: no gas or feces were passed for three days after the first attack and for two after the second. At first it was thought the trouble was secondary to some pleuro-phrenic affection which involved the stomach and intestines. But the persistent suppression of gas and the great distention of the abdomen caused the attending clinicians and the patient to suspect the presence of some obstruction. Operation was advised, though the typical signs of obstruction were absent. And, after the painful attacks, there was no change in the facial expression.

The patient passed some gas shortly before the time set for operation, and the next day the meteorism disappeared, the abdomen relaxed and there was no more pain. The following day some sand was found in the morning specimen of urine. Urinalysis which showed many large uric acid crystals and 0.8 g parts of uric acid to the litre and a slight trace of albumin, pointed the way to the correct diagnosis. That night there was slight attack of pain lasting one half hour and in the morning stone apparently formed. Uric acid and about the size of an apple seed was found in the urine. After this except for some vague passing sensations in the lumbar region there were no attacks of pain and the patient was able to take nourishment. There was no further trouble in the intestines.

Günther found three other unpublished cases which were analogous. Gosset, Moutier and Dreyfus saw these and thought operative intervention equally indicated.

The explanation of the intestinal symptoms is explained by the fact that the renal plexus arises from the aortico-renal ganglions which are part of the solar plexus. Reflexes traveling from the renal plexus may stimulate or paralyze the intestinal branches of the sympathetic system as well as those going to the spermatic plexus.

What is the real cause of the symptoms in such cases of apparent intestinal obstruction? According to Günther a careful analysis of the pain is necessary. The intensity of the pain is disproportional to the condition of the abdomen and in occlusion it is due to the contraction of the weak intestinal muscle. If renal crises the pain is the first thing noticed and it rapidly reaches its maximum intensity. The retention of gas and meteorism are not noticed till later and although the patient suffers considerably that visceral anguish which is always present in real obstruction is absent. The symptoms of abdominal inertia predominate as is shown by the absence of colicky pains between the renal attacks and by the absence of noises and rumblings. Finally the palpation of the abdomen between crises in false flexus, unless there is distention is slightly or not at all painful.

In all cases of lumbo-abdominal pain, a careful urinalysis should be made searching especially for gross or microscopic uric acid and oxalate crystals. The blood should be examined for uric acid chemically.

In the treatment of such cases purgatives are not always successful. The best method seems to be to remove the causes which lead to intestinal inertia. The renal pain is controlled by subcutaneous injection of morphine in quantities sufficient to produce complete relaxation. This seems to be the most effective treatment.

J. DREYER.

Diener. The Structure and Histogenesis of Congenital Kidney Neoplasms (Über den Bau und die Histogenese der angeborenen Nierengeschwülste). *Ztschr. f. synth. Anat., Leipzig*, 9, 2, 14, 45. By Zentralbl. f. d. ges. Med. u. Geburtsh. u. d. Grenzgeb.

A congenital tumor of the right kidney obtained from a 30 cm. fetus born dead is the basis of this report. The tumor was the size of hen's egg, with no normal kidney tissue remaining. The diagnosis of adenomyosarcoma was demonstrated macroscopically. The tumor belongs to the group of embryonal adenocarcinoma described by Birch-Hirschfeld. To explain the presence of muscle cells in these tumors the author accepts the hypothesis of Wilms: One must assume that at the time when differentiation of the kidney anlage from the primary mesodermal plate occurs, few cells of the muscle anlage and sclerodermal anlage are through some unknown disturbance included with the kidney anlage, and continue their growth in a tumor-like manner and that the highly irritated embryonal kidney cells likewise continue their unchecked growth in tumor-like manner.

BLAUER.

Spence Perirenal Hematoma. *Surg. Gynec. & Obst.* 93, xvi, 570. By Surg. Gynec. & Obst.

The author describes a case of perirenal hematoma, the only one cases of this disease having been recorded. The patient, aged 43, developed a chill followed by malaise. Several days later there was a sudden and acute pain in the right hypochondrium, followed by the appearance of a tumor in the same region. The patient developed pallor, shock, and a temperature of 101°. The urine contained small number of red blood cells, and functional tests disclosed diminution in secretory activity of the right kidney. The operation, exploratory in nature, revealed a perirenal blood effusion which infiltrated the fatty capsule, and stripped the fibrous capsule from the kidney. The outer surface of the kidney contained an irregular tear. Nephrectomy was performed, followed by recovery. The histological examination of the kidney showed chronic nephritis, the only lesion demonstrable and presumably the underlying cause of the hemorrhage.

The following conclusions may be drawn from the study of this case and those collected from the literature:

Perirenal hemorrhage is caused by a beriberi, abscess or tumor of the kidney, necrosis of the adrenal gland, traumatism and occasionally occurs in hemophilia. The spontaneous form is probably due to chronic nephritis, the only pathological lesion which has been demonstrated.

The characteristic symptoms of the disease are sudden pain, signs of internal hemorrhage, and the formation of a retroperitoneal tumor.

3. A moderate degree of hematuria is present in one third of the cases. Functional tests show diminution of the secretory activity.

4. The affection is most commonly mistaken for internal obstruction, paranephritic abscess.

5. The disease pursues a rapid course if untreated, death resulting from hemorrhage, infection, or pulmonary complications.

6. Medical treatment has been uniformly unsuccessful.

7. Ten of the sixteen cases operated upon have recovered (6 per cent). The mortality of the twenty-one cases treated by both surgical and medical measures is 55 per cent.

Furness Preliminary Report upon the Use of Indigo-carmine Intravenously as a Test of Renal Function. *Surg. Gynec. & Obst.* 93, xvi, 567. By Surg. Gynec. & Obst.

Furness advocates the use of indigo-carmin in a strength of 0.3 per cent in normal saline solution intravenously, preferring this method to the intramuscular because there is less pain, and the time of appearance in the urine is shorter and more uniform with the variable time of absorption from the muscles is eliminated. He has seen no difference in the time of appearance, whether 5 or 10 cc. is used. This has ranged from 1½ to 7 minutes, with 3½ as the average. The indigo-carmin test is

made to determine the relative functional value of the kidneys after estimation of the combined value with phenolsulphonephthalein.

Joseph Acute Septic Infection of the Kidney and Its Surgical Treatment. *Urol. & Gynec. Res.* 93, xvi, 50. By Surg. Gynec. & Obst.

In this article Joseph divides 11 cases into three groups according to the localization of the focus: paranephritic abscess, pyelonephritis, pyelitis. Generalized paranephritic abscess, he says, is a relatively harmless localized form of general pyemia, the portal of entry of which may still be evident or have healed. The diagnostic features are the absolute lack of involvement of the kidney and the presence of a circumscribed area of tenderness or pressure over the kidney region. If the latter symptoms are present, together with fever otherwise not accounted for, one must not wait for other signs, such as redness or fluctuation which appear only at a late period of the evolution of the disease, but must immediately resort to exploratory incision, even if the urine is normal. This incision will be the whole treatment, if the paranephritic abscess is not complicated by kidney suppuration which, however happens often. A case is reported.

In pyelonephritis—that is, in diffuse infection of the kidney parenchyma—the vital question is, Is there only an inflammatory infiltration, or is pus already present? In the first case, expectant treatment may suffice; in the second, prompt surgical interference is needed. Two cases are reported: one recovered without operation; the second was treated by nephrectomy three years later. Difficult secondary nephrectomy was done on account of persistent pain, and the kidney was very markedly altered. Primary nephrectomy could have been better in this case.

Pyelitis is easy to diagnose and yields to simple, non-operative treatment. **FAXON E. GUINOT.**

Lapeyre Renal Function after Decapsulation of the Kidney (La fonction rénale après la décapsulation du rein). *J. de physiologie et de pathologie.* 93, xv, 54. By Journal de Chirurgie.

Renal decapsulation, as practiced in the treatment of uremia and eczema, has up to the present lacked an experimental basis as a therapeutic measure. Lapeyre has studied the elimination of the decapsulated kidney as compared to the untouched kidney of the opposite side. He has studied their comparative permeability to flooresein and to potassium ferrocyanide, as well as the diuresis caused by intravenous injections of isotonic and hypertonic solutions of sodium chloride, glucose, and urea. The method employed by Lapeyre consisted in the decapsulation of one of a dog's kidneys, followed by bilateral ureterostomy. The operative procedures in themselves resulted in minimal apparent changes in the urinary secretion. Albumen and sugar were observed in 6 per cent of the sixteen cases but disappeared by the end of the study.

four hours. After the injection of fluorescein and of potassium ferrocyanide Laperre found that the elimination of each of these two substances was practically the same for the decapsulated and the untouched kidney, no matter how long a period had elapsed between the decapsulation and the application of the functional test. The amounts injected were first .005 gm. of fluorescein and .005 gm. of 9 per cent NaCl and second, .05 gm. of potassium ferrocyanide in .005 gm. of NaCl.

Likewise, after intravenous injection of isotonic solutions of sodium chloride or of glucose the polyuria and the elimination of these substances were approximately equal from the two kidneys. Hypertonic solutions also yielded the same results. These experimental results show that decapsulation has at least no harmful effect on the function of the sound kidney.

The author believes that in cases of nephritis one may legitimately suppose that the decompression of the organ, by permitting of freer circulation and of the more ready formation of osmotic vascular adhesions, has a beneficial effect on renal functions.

PAGE (LAPERRÉ)

Passcal. Contribution to the Study of Calculi of the Intra-Parietal Portion of the Ureter
(Contribution à l'étude des calculs de la portion intrapariétale de l'uretère). *J. d'Urol.* 9, 3, 447.

By Journal de Chirurgie.

Calculi of the intra-parietal portion of the ureter are relatively frequent (1 per cent [Gaubert]) the narrowing at the ureteral meatus is owing their arrest at this point. They may produce either complete obliteration of the ureter or on the contrary cystic dilatation of its lower end or two rather characteristic lesions: prolapsus of the ureteral zone or bulbous edema of this zone.

Prolapsus of the ureteral zone or intravesical dilatation of the lower end of the ureter (which should not be confused with prolapsus of the ureteral mucosa) presents itself under the form of a conical projection into the bladder on whose rounded summit may be seen the ureteral orifice or even the calculus, engaged in this orifice. When far advanced the prolapsus may constitute an intravesical diverticulum containing numerous calculi.

Edema of the ureteral zone is usually a bulbous edema which may arrive at such considerable proportions as to simulate a real tumor.

The calculi of the intra-parietal portion yield variable symptoms. The more frequent of these are vesical resembling those of cystitis, frequency, dysuria, pain at the meatus, cloudy urine, occasionally few drops of blood. Cystitis, prostaticitis, even renal tuberculosis, are simulated. Young has observed seminal phenomena (nocturnal emissions), testicular (pain in the testicle on the corresponding side), rectal (chronic pain in the rectum, increased at the moment of defecation). Passcal, however, believes that these symptoms are more characteristic of calculi of the juxta-vesical portion of the ureter.

Cystoscopy usually gives definite findings: enormous edema, usually bulbous, localized about the ureteral meatus, or prolapsus of the ureteral zone very often with the calculus itself filling in the ureteral orifice.

The presence in the anamnesis of definite renal colic without expulsion of the calculus, and with vesical symptoms, is of great value. Vaginal palpation may yield definite information: ureteral tenderness, presence of hard body. Rectal examination is less valuable because of the mistake furnished by the presence of the prostate.

Ureteral catheterization may yield proof of an obstruction, but frequently the sound passes easily alongside of the calculus and hence a negative result cannot be taken to rule out the presence of a stone. Radiography is the most valuable diagnostic method. Repeated plates and the employment of the opaque ureteral sound are often necessary. The exact diagnosis of the site of the calculus—transmural or juxta-vesical—is extremely important in determining the type of operation, which is transvesical in the first case and laterovesical in the second. The existence of prolapsus or of edema, weigh in favor of an intra-parietal situation of the calculus but radiography is the more exact method of determining this point. If there is no tendency to spontaneous expulsion of the calculus its operative removal is indicated, since it leads to progressive destruction of the corresponding kidney. The perineal route is rarely indicated. The vaginal route may be utilized if the calculus is definitely perceptible through the vagina. In women the endovesical route might be selected advantageously. In many cases it would permit of either the dilatation of the ureter or of the incision of the ureteral orifice, or of the direct suture or crushing of the stone. The transvesical route is always indicated in men and in women where an attempt by the endovesical route has been unsuccessful. It allows of an easy extraction of the calculus after or without, enlargement of the ureteral orifice. J. TAYLOR.

Furness. Impacted Ureteral Calculi Released by Folgoration. *J. Am. Med. Ass.* 9, 3, 534.

By Surg., Gynec. & Obst.

The author reports the case of a woman of 49 with frequent urination pain in right loin and pus and blood in urine for three months. Eleven years ago she had a transient similar attack. A poor X-ray failed to show shadow. Cystoscopy showed a mass in region of right ureter the size of pigeon's egg surrounded by bulbous edema. The ureter was not seen.

The mass could be felt through the vagina and it was supposed to be a broad-based papilloma, probably malignant. Two applications were made with the D'Arnoval current. One week after the last cauterization a large black calculus was seen protruding through the mass. The patient refused operative treatment at that time. When seen six months later there was a history of numerous

attacks of lumbar pain. Cystoscopy showed two stones free in bladder. The right ureter appeared the size of lead pencil and the oedematous mass had entirely disappeared. The author suggests high frequency cauterization as a simple and bloodless method of releasing calculi from the lower end of the ureter when there is no bar from ureteral obstruction. About week is required for the tissue to slough. Errors of diagnosis may be avoided by means of good radiograph. F. R. O'NEIL.

Green. Infections of the Upper Urinary Tract in Infancy and Childhood. *Bacon M. & S. J.* 1913, child, 645. By Surg., Gynec. & Obst.

The author gives a short review of the literature on the subject and reports six cases to further illustrate the infections of the upper urinary tract. Case 1 is that of a girl, years old, who had an appendiceal abscess. Seventeen days after the operation she developed the typical signs of a kidney involvement: pain, tenderness, spasms and fulness in the right costo-vertebral angle. The diagnosis was acute secondary infection of the right kidney, hematogenous in origin. The kidney capsule was laid open and drainage established. The patient recovered. Case 2 the patient was girl, 1 year old, who had an obscure general infection but was operated for peritonitis. Three days following the operation she developed temperature with no local signs of infection. Two weeks later albumin and blood appeared in the urine. There was tenderness over the left kidney. She was operated in the same manner as Case 1 and she made steady convalescence, being discharged five weeks later. Case 3 was a boy 9 years old who had a severe osteomyelitis of the ileum with metastatic epiphyseitis of the tibia. He developed metastatic nephritis. A kidney operation was performed in this case no reason being mentioned why it was omitted. The patient was treated medically and recovered. Case 4 was that of a boy 7 years old who developed an acute inflammatory nephritis and pyelitis following balanoposthitis. The early symptoms were those of an acute pyelonephritis, followed later by acute pyelitis. The child recovered completely after removal and drainage of the appendix. Case 5 was that of a boy 3 years old, who developed an empyema following pneumonia. Ten days following rib resection he developed an acute inflammatory nephritis. This cleared up in a few days under rest and medicinal treatment. Case 6 is that of a girl, years old, who entered the hospital with perinephritic abscess and also some involvement of the kidney itself. The abscess was opened and the patient recovered shortly after.

The author comes to the following conclusions:

1. In infants and children infections of the upper urinary tract, though infrequent, are likely to occur without adequate apparent antecedent cause.

2. Their onset is acute, the clinical picture definite, and their recognition often missed on account of simulating other infectious conditions.

3. The two most usual forms are acute pyelitis and acute inflammatory nephritis.

4. The latter is most usually hematogenous in origin, the former probably proceeds by lymphatic extension from the intestine.

5. Predisposing causes are calculi, constipation, phimosis, anal fissures, and foci of infection elsewhere.

6. The classic signs of both are pyrexia, pyuria and tenderness in the costo-vertebral angle.

7. Differential diagnosis depends on examination of the urine.

8. The treatment consists in rest, milk diet, aqueous diuretics, moderate cathartics, urotropin with sodium benzoate, potassium citrate or vaccine in obstinate cases surgery only as final resort.

EDWARD L. CORVILL.

Fawcett. Accessory Ureters (Über Accessorische Harnleiter). *Deutsche Zeitschr. f. Chir.* 70, 3, 1913, 415.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The author reports six cases of double ureter. In one case the double ureters of both sides communicated with each other in the intramural part through a small opening. In five cases double ureters existed on only one side. In three cases the ureters remained separate throughout the entire course. The clinical histories present interesting characteristics which are detailed in the original article. The author was able to collect from the literature six cases of double ureter diagnosed by means of the cystoscope (Stark, Seig, Klose, Unterberg, Vennemann).

From the literature it is evident that double ureters, on account of their constant tendency to cross each other, produce conditions which predispose to renal diseases. These diseases are dealt with by resection of the part affected or by removal of the kidney.

VON LACHETTER.

BLADDER, URETHRA, AND PENIS

Louveau. Therapeutic Flaccidization of the Bladder (Sur la Stimulation thérapeutique de la vessie). *J. de med. de Bordeaux*, 913, 1913, No. 7.

By Journal de Chirurgie.

Louveau gives his personal results in twenty-five cases in which permanent bladder fistula has been made. 7 of these had painful cystitis, acute or chronic; 5 bladder or prostatic tumor; one uretero-rectal fistula. In 7 cases the cystitis was due to tuberculous, leucoplasmia, or bichloride or cathartics poisoning. Many of these cases were immediately relieved. In 5 cases of chronic cystitis, prostatic or kidney in origin, there was no relief. A suprapubic fistula was made 9 times; a vaginal fistula 3 times and once combination of the two. In cases not reacting to this treatment there is contraction and sclerosis of the bladder.

ORANSON reports three cases of permanent fistula with brilliant results. In one case of primary tuberculous of the bladder the relief was marked.

J. DEAN.

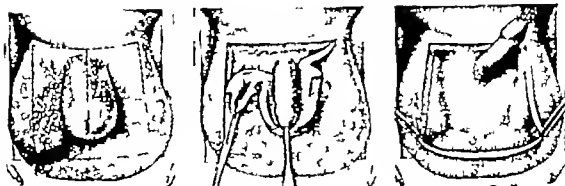


Fig. (Bonamy and Dertigues) Excision of the diseased parts

Bonamy and Dertigues Technique of External Genitoplasty in the Male (Technique opératoire de la génito-plastie masculine externe). *Presse méd.*, Par. 93, xvi, 95. By *Journal de Chirurgie*.

The authors have successfully applied the technique they describe in a case where there was elephantiasis-like condition of the whole cutaneous covering of the external genitalia which the microscope showed to be a diffuse lymphangoma. Total emasculation had been advised by other surgeons.

This procedure combines excision and plastic repair. It consists of three main steps: (1) excision of the diseased parts (peno-scrotal decortication); (2) making of new scrotum with an opening for the stripped penis; (3) ensheathing of the penis by means of two lateral skin flaps.

Peno-scrotal decortication is carried out as follows: The skin incisions outline a four-sided figure. The upper incision is horizontal and crosses anteriorly the symphysis pubis above the root of the penis; the lower is parallel with, and about an inch above, the lower border of the scrotum. The lateral incisions are both vertical and unite the ends of the upper and lower cuts. An additional incision is drawn lengthwise in the dorsal midline of the penis from the middle of the upper incision to the urinary meatus. To decorticate the penis, the surgeon introduces in the urethra Hegar dilator to act as a guide; this is better than a catheter which might

let urine trickle on the operative field. With dissection forceps and knife the right and left sides, and, finally the under surface, of the penis are stripped of the diseased skin. To do the same to the anterior part of the scrotum a vulsellum or bullet forceps is placed in each of the upper angles of the scrotal flap while third holds the tip of the loosened penile flap. The left hand of the surgeon grasps these three forceps together and pulls them downward between the thighs, while an assistant draws the penis upward, out of the way in front of the pubis, and holds it there. The testicles enclosed in the fibrous layer and vaginalis are next brought out. If healthy they are left alone; if diseased, castration, on one or both sides, is performed. If hydrocele is present the vaginalis is resected.

The making of new scrotum is simply effected by bringing up the edge of the lower, pre-scrotal, incision on level with the upper prepubic incision. Of course the new scrotum is much less roomy than the old one. The lateral ends of the scrotal and prepubic edges are temporarily approximated by means of two bullet forceps, while there remains in the middle gap through which passes the stripped penis. A longitudinal incision, two or two and one half inches long, is then made with a knife in the median scrotal raphe itself one and one half or two inches below the line where the two above mentioned edges will be sutured together. Through this



Fig. (Bonamy and Dertigues) Making new scrotum with an opening for stripped penis.

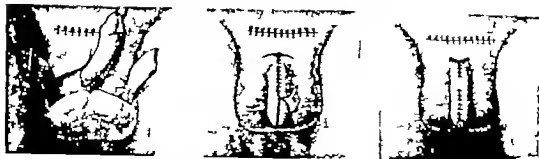


Fig. 3. (Bosamy and Dartgum.) Encasing penis by means of two lateral skin flaps.

incision, tips of which are spread apart by the two arms of thumb forceps, which the surgeon works with his right hand, the penis is grasped with another forceps held in the left hand and brought down through the slit. It is then left hanging downward, the scrotal and prepubic edges are sutured with linen or silkworm gut.

It remains to provide a new skin sheath for the penis which hangs in front of the new scrotum in its new permanent position; this step the author styles *penile neo-epi-skinisation*. On each side of the new root of the penis, the surgeon cuts quadrilateral flap slightly oblique outward and downward, and the hinge of which corresponds almost exactly in position with the lateral and vertical borders of the new scrotum. It is essential, however that these flaps should have an abundant blood-supply and, therefore, the limiting incisions must not come too near the upper prepubic incision. The length and width of these flaps must, in each individual case be fitted to the size of the penis, care being taken always to have abundant, rather redundant material. Insufficient flaps may lead to partial failure compel later to resort to complementary skin grafting. These flaps are drawn and folded around the corresponding half of the penis and sutured together.

When the operation is completed, there are five lines of suture viz. A longitudinal suture on the dorsum of the penis one similar on the ventral aspect of the penis, short transversal suture just above the root of the penis, circular suture around the urinary meatus and finally above all, the horizontal scroto-public suture above referred to. If the glands were not deeply involved and if it was possible to spare small healthy part of the foreskin, new prepuce and coronary sulcus can be made.

As rather large dead spaces are left in the connective tissue, hemostasis must be very thorough, and it is best to drain in the most dependent point through special scrotal stab wound, if need be.

A retained catheter may prove necessary in some cases. In the author's case, however the patient easily voided spontaneously. Again, the operation started copious lymphatic bleeding which did away with the considerable infiltration of the connective tissue the latter before the operation, was more than an inch thick.

J. Dumas

GENITAL ORGANS

Sochatchin. Torsion of the Testicle (Volvulus Testis). *Chirurgia* 9, 3, xxiii, 52.

By Zentralbl. f. d. ges. Chir. u. i. Chirurg.

This is a rare affection and the literature on the subject is scanty. Bogdaniky has collected the greatest number of cases—fifty cases of volvulus testis, with three personal observations. Orsanti's statistics comprise 3 cases with one personal case.

The author's case was that of fourteen-year-old patient who was admitted to the hospital in a most serious condition. He complained of vomiting and severe pains in the scrotal region, which began suddenly during defecation the day before. The left half of the scrotum was greatly swollen, the skin red and very sensitive to pressure. The temperature was 37°.

The testicle and epididymis were covered with blackish green spots, and the veins of the plexus were thrombosed. The testicle could be easily innated, and it was seen that the vas had been twisted fully 360° from left to right.

The anatomical conditions for the development of volvulus of the testicle are the found in an abnormal development. The pathological and anatomical investigations of Keith, et al., have shown that in a testicle in which volvulus had occurred the peritoceal fold attaching the normal testicle was either absent or abnormally long.

Nicolodini regards trauma and forced movements of the body as etiological factors. Kilinger and Winlawer believe that the increased pressure of the abdominal wall plays a rôle or was probably the cause in the case described by the author. Therapy naturally is purely operative.

See xxx.

Baileiff. Vasostomy Radiography of the Seminal Ducts. *Surg. Gynec. & Obst.* 19, 3, xvi, 624.

By Surg. Gynec. & Obst.

Several years ago the author devised and described irrigation of vas and vesicle through vasostomy whereby the entire genital duct, from epididymis to urethra, can be medicated with any soluble solution. Experience with this procedure has shown () that many cases of gleet incurable through treatment of the urethra (because the dis-

charge proceeds from the vesicles) can be thus cured (2) that vas and vesicle may discharge their contents into the prostatic urethra not merely by ejaculation but also by normal peristaltic contraction—a function which explains some cases of mysterious pruritus, hematuria, phosphaturia, and transient albuminuria without disease of kidneys, bladder or urethra that in fact the bladder may be a reservoir for the seminal as well as urinary ducts (3) that spermia may proceed from chronic infection of the seminal vesicle by the colon bacillus as well as by the gonococcus that obstructions to the passage of spermatozoa from testis to urethra causing sterility are frequent the vas and ejaculatory duct.

More recently he has utilized cystoscopy as means of radiographing the vas and vesicle which are thus filled with collargol solution. These radiographs reveal, among other things (1) the occasional transformation of the infected end into pus sac, or pyroreticular (2) the possible obstruction of the ureter with consequent kidney symptoms by an infected vesicle—condition discovered through operation by Morgan and Young.

EDWARD L. CORNELL

Gleason. Hypertrophy of the Prostate. Vol. 1. If J. G. J. xvii, 9. By Surg. Gynec. & Obst.

Tandler and Zuckerkandl have substantially advanced the knowledge of the anatomy and surgical pathology of the prostate by the following points:

That the anatomical capsule of the prostate is derived from, and is intimately connected with the foldings of the pelvic fascia that meet around the gland.

2. That it is impossible to enucleate the prostate out of the capsule. It can only be dissected out.

3. That the prostatic capsule of the surgeon consists of compressed prostatic tissue.

4. That hypertrophy takes place only in the central lobe.

5. That enucleation of the hypertrophied prostate occurs inside of circular layer of compressed prostatic tissue detached from the central part of the gland.

6. That this part of the gland is interwoven with the prostatic end of the urethra.

7. That malignancy of the prostate is observed from earliest childhood until old age.

The etiology of hypertrophied prostate is unknown. The author quotes Wilson and McGrath who have done extensive work along this line. These men state, "A hypothesis has yet been advanced which adequately explains the cause. Freyer after studying one thousand cases of complete enucleation states, 'I have to confess that I have still no insight into the origin of this disease.'"

Conditions requiring prostatectomy are

When there are three to fifteen ounces of residual urine.

2. Extreme over-distension and dribbling.

3. Retention from time to time.

4. Ability to void some urine without use of catheter.

5. Entire dependence on catheter.

6. Complete retention and beginning infection.

Symptoms of prostatism. Primary symptoms are (1) frequency of micturition, becoming more difficult and prolonged (2) The stream starts slowly and sometimes dribbles—followed by a sense of fullness, burning pain and distress. (3) These symptoms gradually become more and more pronounced and partial or absolute retention may or may not intervene.

Secondary symptoms are insomnia, loss of appetite, strength, and weight.

The proper anti-operative treatment is very essential, in regard to the proper action of the skin, kidneys and bowels. In septic cases perineal or suprapubic drainage should be established as a preliminary measure in treatment.

In the choice of an operation and the technique used one should deliberately weigh the evidence presented, and keeping in mind the element of safety choose the operation that will promise the most favorable result in the individual case. With the present knowledge of the anatomy and pathology of the prostate, the suprapubic method should be the operation of choice unless there are strong contraindications.

The author holds that the advantages to be gained are

It provides absolute control from the time the urine is first voided through the urethra.

It enables one thoroughly to explore the bladder.

3. It is less likely to be attended with painful complications (such as inflammation in epididymis or testicle, or wound of the rectum). The disadvantage is that the suprapubic wound usually requires longer time to heal. Freyer method of complete enucleation is the one of choice.

The perineal operation should be reserved for cases presenting (1) Hard fibrous prostate (2) When the gland is situated well downward toward the perineum. (3) If condition is complicated by presence of stone (4) In fibrous or malignant cases when the gland must be dissected out. The method of Young is the one of choice.

The author concludes by saying Prostatectomy is not an operation to be attempted by an inexperienced surgeon.

H. A. Moore.

MISCELLANEOUS

Legu Papin and Malingot. Radiographic Examination of the Urinary Tract (Exploration radiographique de l'appareil urinaire). Paris: Götter 93.

By Journal de Chirurgie

Radiography can give invaluable information regarding the anatomy of the urinary apparatus. When sufficiently definite technique is used the shadow of the kidney is seen in three-fourths of the cases and not only the position and relations but

also the shape and size of the organ can be determined.

The renal blood vessels can be well studied by radiography after their injection with opaque material. The authors have thus demonstrated the presence of end-arteries and the venous connections in the kidney.

By injecting into the urinary tract 9 per cent collargol it is possible to obtain good pictures of the pylorus, calices, ureters and of the changes in shape of the bladder.

By simple radiography or with the aid of opaque catheters or collargol, the anomalies of shadow and disorders of the kidneys and ureters can be accounted for. There is no other method of demonstrating these things as accurately as does the radiograph. The same is the case in renal retention, to which one of the chapters in this most excellent and original work is devoted.

Search for calculi in the urinary apparatus is still the commonest cause for urinary radiology, as it is best known to the physicians at large. Now with good technique only 3 per cent of stones in the kidney or ureter are missed unless the stones are very small or the patient very stout unless the patient moves, or the stone is made of uric acid. The existence of diverse shadows often makes the absolute diagnosis of ureteral calculi very difficult to those who have not had considerable experience. The problem is generally less difficult to solve for stones and foreign bodies in the bladder.

The study of movable or tuberculous kidneys or of renal tumors is often facilitated by the X-ray as the numerous negatives show.

Finally the possibility in certain cases of studying the condition of the prostate and the caliber of the urethra completes the review of the uses of radiography in this connection. R. LAMOUR-LAMOUR

Marion. Significance of Hemorrhage Following Operation on the Urinary Tract (De la signification d'hémorragie post-opératoire chez les urinaires). *J. d'Urol.* 9 3 m, 1930. By Journal de Chirurgie.

Hemorrhage similar to that observed in peritonitis or in certain hysterical patients, occurs not infrequently after operation on the urinary tract. It lasts for hours, may intermit for a variable time, recurs without apparent cause and so goes on, not infrequently ending in death after several days, during which time the patient has become progressively enfeebled and torpid.

Marion believes that this symptom is in the greater majority of cases a uræmic manifestation, an evidence of "Azotemia." Four patients who presented this symptom showed a coincident marked increase in the quantity of urea in the blood (3 gr. before operation, .33 during the hemorrhage, .83 before, 4.8 after etc.) These cases, supposedly under the influence of chloroform, or of a post-operative infection, have suffered a "touch of nephritis." The treatment of choice is, therefore, the use of non-nitrogenous diet and of sedatives, of which latter ether and valerian appear to be especially useful. J. TAYLOR.

Bachmann. Venereal Prophylaxis: Why It Sometimes Fails. *J. Am. M. Ass.* 1913, 10, 1600. By Surg. Gynec. & Obst.

The author reviews the work of Russell and Nichols of the U. S. Army to demonstrate the value of calomel ointment and other antiseptics as a prophylactic against gonorrhea. Their experiments were made in cases of acute gonorrhea. The ointment was injected into the urethra and retained fifteen minutes then washed out by irrigation after which the urethral secretion expressed from the meatus was cultured upon aseptic agar and examined with Gram's stain. Two series of eight cases each were studied. In the first 3 per cent calomel with phenol and canthar in lanolin and lard was used. It proved effective in seven of the eight cases. In the second series 30 per cent calomel in lanolin and 3 per cent phenol in lanolin were used with failure in all cases.

Bachmann in place exposures in different men to an infected woman used the heavy ointment (33 1/3 per cent calomel, 1 per cent trichloral in benzoinated lard) and obtained negative results in all. Two control cases, who did not use the ointment, were infected. With this ointment the author then repeated Russell and Nichols' work in a series of sixteen cases each, making cultures from platinum loop scrapings in the first and from expressed secretions from the meatus in the second. Of the first series seven were positive, and nine negative, and of the second, nine were positive and seven negative. Tubes of ointment bought in the open market proved failures in all of third series of six cases.

The author calls attention to variations in the ingredients and their proportions making up the ointments and also the difference in technique of their application as causes for failures. H. G. HARRIS.

SURGERY OF THE EYE AND EAR

EYE

Brown The Relation of Accessory Cavity Diseases to the Eye and the Orbit. *Olas St M J* 9 3, 11, 107 By Surg. Gynec. & Obst.

The close anatomical relationship of the eye and its appendages to the nose must be granted. The relationship of the blood supply is also close. In sinusitis the following symptoms are often noted: headache, variously located but more or less constant; infra-orbital supra-orbital neuralgia; lacrimation, smarting and burning of eyes and eyelids, or acute ocular fatigue on close work. Hyperemia of the conjunctiva, orbital cellulitis, lacrimal, exophthalmos, edema of lids, optic neuritis and panophthalmitis are frequently associated with sinus disease. Sixty per cent of the cases of orbital inflammation are of known nasal origin. These follow report of seven cases with orbital or ocular disease improvement and cure following treatment of the causative disease in every case. The article is illustrated by eight photographs of anatomical specimens demonstrating the relations very clearly.

In the discussion, STUCKEY brought out the influence of internal toxemias on the nasal structures, explaining that an intestinal to-intoxicatio may cause ascending edema and that under these conditions the retained secretion becomes purulent. WOODS brought out the importance of more careful nasal examination in eye conditions as spoken of above. First emphasized the importance of the X-ray sinus diagnosis. McFARLEY (Cincinnati) spoke of the frequent complication of sinus disease in acute infectious disease. EARLE B. FOWLER.

Lang The Influence of Chronic Sepsis upon Eye Disease. *Lancet*, Lond. 9 3, 11, 106 By Surg. Gynec. & Obst.

Lang has been credited as first to recognize the connection between pyorrhea and the inflammation of the iris and in this article sums up and illustrates his observations. The nature of the poison he has not determined.

Of his series, 1 hundred and fifteen were attributed to chronic sepsis; 100 hundred and sixty eight to all other recognized causes. Of two hundred and fifteen toxic cases on hundred and thirty-nine were due to pyorrhea, others to sinus inflammation, alimentary toxemias and urethritis.

Though chronic sepsis may cause inflammation in any portion of the eye the uveal tract is shown to be most frequently involved. The ten cases cited illustrate the rapid recovery that follows removal of the causative factor. EARLE B. FOWLER.

Dwyer The Use of Vaccines in Eye Infections. *Arch Ophth* 9 3, 11, 117 By Surg., Gynec. & Obst.

From his observations of 300 cases Dwyer states that vaccines, properly administered, are agents which have no equal in certain cases of eye infection.

Of twenty-seven cases of bordeola, in all of which some strain of staphylococcus was isolated and an autogenous vaccine given twenty four have been entirely free from the attacks since the treatment. The dosage was 0.000000 increasing to 0.000000 million, given five days apart and seven or eight doses in all, two after the condition had cleared up. A general improvement in health was noted in most of the cases after the first injection. Further twelve infections with the tubercle bacillus were reported diagnosed clinically and by the tuberculin reactions. Of these five phlyctenular conjunctivitis and keratitis cleared and have not recurred. One case of iritis, three of keratitis, one of choroiditis and two of epidermitis all responded rapidly to tuberculin injections.

The gonococcus vaccine was used in two cases of iritis with rapid clearing, and in four cases of conjunctivitis the author believes the course was much shortened by the very large doses given. A pneumococcal ulcer of the cornea responded very satisfactorily in three cases. In staphylococcal dacryocystitis (3) and conjunctivitis (3) the results were gratifying. Two cases of Morax-Axenfeld gave surprising results under vaccine treatment. A two-page digest of immunity and serum therapy follows. The author favors a vaccine as compared with stock products where practical. EARLE B. FOWLER.

Vail A Study of Some Forms of Congenital Cataract, with Special Reference to Their Clinical Significance. *Lancet-Clin*, 9 3, 11, 118 By Surg. Gynec. & Obst.

Vail describes the embryonic development of the lens and discusses the different forms of congenital cataract, following the teachings of Collins and Mayou. In the disk-shaped or nuclear cataract he believes it is a mistake to do the needle operation. Col. Smith would extract such a cataract with fine forceps through a small corneal incision, after having made good-sized iridectomy.

In educated classes an iridectomy may be performed early and another operation done for the cataract when the lens becomes fully cataractous. In cases of cataract with considerable opacification of the lens, it is generally a mistake to consider needling, as the opacities are insoluble and are irritating when liberated. C. G. DARLINGTON.

Simpson. The I tra-Capsular Operation for Cataract (ter the Method of Professor Stanclen. *Opht. Rev.* 9, 1, 221, 231.
By Surg. Grace & Ouse.

Simpson describes the intra-capsular operation for cataract as done by Stanclen. The upper lid is held by the double hood retractor off from the eye. The operation is done in a dark room by electric light. The incision in the cornea is twice as large than the ordinary. An incision is made. The anterior pole of the lens is then grasped by special forceps without teeth. The closed forceps is passed under the anterior chamber (then) the pupillary area it is moved perpendicularly to the surface of the lens and by slight pressure backwards made to hit the angle.

The zonular fibers are ruptured side-to-side by up-and-down movement. When the lens is loose the forceps is opened and removed. If the capsule is still in loose the operation goes on in the usual way. At the lens is loose enough pressure is made with spoon over the cornea slightly below the center to slight enter pressure above the area is less than capsule comes through the incision it is followed by the spoon from below. C. G. DARRING.

Campbell. Five Cases of Hereditary Cataract. *J. Opht. Ocul. & Laryng.* 14, 3, 222, 44.
By Surg. Grace & Ouse.

Campbell reports operating in cases of hereditary cataract on three persons with a family history of seven or more in the same family all developing cataract before the age of twenty and the only rise in eyes previously normal.

The first are seen by Campbell, cat that developed at the age of eight in one eye and that three the other. The brother of Case developed cataract at the age of twenty-six in both eyes. Case 3 the sister of Case 1 and had the age of twenty-five an operation for cataract on one eye. Campbell operated the other eye one and half years later. The sister of these patients had been operated for cataract by their father's eye. The father, sister and cousin also had cataract at an early age. C. G. DARRING.

Jennings. The Removal of Senile Cataract Before Maturity. *Med. Record* 9, 3, 222, 97.
By Surg. Grace & Ouse.

Jennings divides the removal of cataract into immature if vision of both eyes is low.

He makes a corneal incision about junctional flap uses capsule forceps for opening the capsule and washes out the cortical matter with salt solution, using glass tip syringe introduced all down into the lenticular space. C. G. DARRING.

Meding. Another View of the Extraction of the Capsular Cataract Operation. *Arch. Opht.* 4, 3, 221, 241.
By Surg. Grace & Ouse.

Meding gives the reasons for the study of the India cataract operation under Col Smith as these

The crying need for relief from immature cataract dissatisfaction with the cat. ract operation he is using because of the capsule remnant left behind and unsatisfactory cosmetic results.

With tribute to Col. Smith, Meding tells of the operation and his experience with it. The main and apparently forbidding difficulty of the operation is the factor of pressure. The pressure necessary to express the lens in its capsule demands thinking fingers. A taught at Vassar the pressure is positive, controlled and under good tuition it can be learned. A competent assistant is necessary. Results are startling. The three found that he sought one operation, clear pupil without visible scars, then living at their usual occupation. Assist in the initial is most difficult in the hypermature.

The field is prepared by douching with 1000 bichloride and without rubbing, squeezing or stirring.
EARLE B. FOWLER.

Stidell. Contribution to the Pathology of Hemorrhagic Glaucoma. *Arch. Opht.* 10, 3, 212, 118.
By Surg. Grace & Ouse.

Stidell gives detailed microscopic description of three additional cases of hemorrhagic glaucoma and furnishes further data to corroborate the findings of others namely that marked atypical changes are present in the central vessels. Although serial cross sections of the optic nerve are made, the pathological changes are unappreciably elucidated by the compound figures which picture axial sections of the central artery. The greatest changes are found in the intima, but not located in the region of the lamina cribrosa, here as rule they have been described. In all three cases more or less sclerosis as found in the central arteries and veins. The greatest change consisted of true hydrops of the intima, this, which constituted the principal cause for the endothelial thickening and stress is laid on this edematous condition because acute and transitory occlusion of the vessels may result from it. The fact that the endothelium as erythrocytes intact furnishes proof that thromboses had not occurred. Vascular changes are also found in the choroid, iris body and iris. These changes have led to the recognition of hemorrhagic glaucoma as separate disease from glaucoma. F. VAN LARE.

Hallett. Glaucomatous Tension Relieved by An Early Sclerotomy. *J. Opht. Ocul. & Laryng.* 9, 3, 222, 8.
By Surg. Grace & Ouse.

Hallett with the idea of making an incision more favorable did an anterior sclerotomy with splinter toms as preliminary effort to reduce high tension in case of typical acute glaucoma. Postponing the incision for one week. It was found that normal tension had been restored and that the vision had improved from fingers at six feet to 20/200. After four more weeks 20/20 as recorded and the patient enabled to resume his former occupations.

The author kept the case under observation for a period of twenty-one months, and although the field was much contracted and deep glaucomatous cupping was present the vision remained the same and the glaucoma was apparently arrested.

FRANCIS LAYE.

Third. A Case of Enlargement of the Eye-Ball *Ophth. Rev.* 93, xxxii, 37.

By Surg. Gynec. & Obst.

The patient was a boy aged eleven who had the condition since infancy. Examination revealed the following: left face and ear appeared to be little larger than the right but, taking careful measurements in all directions, a slight enlargement of the left ear could be made out. The left palpebral fissure was little larger than the right and this in spite of the fact that if anything there was slight nophthalmus. When the globes themselves were compared the difference was very evident, the left eye ball appeared much larger than the right. The corneal diameters were left vertical 3 mm. and the horizontal 4 mm. The pupillary reactions were normal but the left was larger (4 mm. diam.) than the right (3 mm. diam.) during distant object in ordinary daylight. There was no tremulousness of the iris in the left eye and when the pupil was dilated the edge of the lens could not be seen and therefore did not appear to be small in comparison with the rest of the eye. The left anterior chamber was distinctly deeper than the right. Intra-ocular tension was quite normal in both eyes. There was no evidence of stretching or thinning of the sclerotic coat in the left eye. The fundi were quite normal with not the slightest sign of any pathological cupping. The physiological cup was normally present in the left eye.

The child was myopic and as there was some ciliary spasm he was put under tropin for a few weeks. It had no effect on the tension in the left eye which remained normal with widely dilated pupil. After nine months the conditions were unchanged. Fuchs states in his textbook that infantile glaucoma may come to a standstill, and of course, this case may be an abortive one. The author thinks the simple hypertrophy of the globe.

EARLE B. FOWLER.

Pooley and Wilkinson. Blindness of Left Eye Due to Pressure of Distended Maxillary Antrum. *Ophth. Rev.* 93, xxxii, 30.

By Surg. Gynec. & Obst.

The case reported is that of a woman 30 years of age who gave a history of left blindness coming on in twenty-four hours with no other symptoms except periodic headaches. On examining the eye there was no perception of light, pupil inactive except to light thrown in opposite eye media clear and fundus normal. Puncture of left antrum as followed by an escape of straw-colored fluid. Operation through the canine fossa with removal of polypoid growth and an opening for permanent drainage into the

nose as done at once. Vision improved rapidly up to normal about the twelfth day.

The case is summed up as one of pressure on the optic nerve by displacement, inward of the trum from pressure of the cyst within. This is a rare condition and no report of a similar case was found by the authors.

EARLE B. FOWLER.

McReynolds. Some Impressions of the Oxford Ophthalmological Congress and the Ophthalmological Section of the British Medical Association at Birmingham. *Tr. St. J. Med.* 93, viii, 33.

By Surg. Gynec. & Obst.

Three fourths of the combined sessions was devoted to the consideration of subjects introduced by men connected with the provincial governments.

Mr Reynolds says, considering British ophthalmology that a broader view of the field must be taken since Col. Smith has performed more than 3,000 cataract extractions and Mr J. O. Elliott has done about 400 trephining operations for glaucoma.

British ophthalmologists generally are not yet ready to adopt the Smith operation, the consensus of opinion being distinctly in favor of the combined extraction whether intracapsular or not. There was strong endorsement of Mr C. Ewen's methods of irrigating the anterior chamber and vigorous opposition to the early performance of a secondary operation on the capsule.

In regard to glaucoma the general opinion prevailed that correct iridectomy was reasonably effective in acute glaucoma and that experience indicated that the methods of Elliott and Herbert presented marked advantage for the chronic types.

C. G. DANIEL.

EAR

W. H. A Case of Blastoid Abscess without Otterrhoea. *V. M. Semi-Monthly* 93, xvi, 35.

By Surg. Gynec. & Obst.

The author reports an interesting case operated on for mastoiditis in which torrhoea was absent. The patient presented diffuse oedema over the mastoid and some tenderness on deep pressure. Otoscopic examination showed thick, red but perfectly intact drum membrane. His condition was normal otherwise except for the loss of weight.

After the mastoid was opened, the hard bone was found softened and necrotic, with pus formation in places. It extended to the mastoid pophrynx, upwards including the sigmoidicella, backward to the ridge of the lateral sinus, and forward nearly to the posterior wall of the meatus. The wound healed rapidly and completely and the patient showed improvement in general.

W. LUTHER H. THOMPSON.

Voorhees. Serous and Suppurative Labyrinthitis (this): Differential Diagnosis. *Boston M. & S. J.* 93, clxxviii, 76.

By Surg. Gynec. & Obst.

Operative procedure in serous labyrinthitis results in loss of hearing whereas failure to operate

SURGERY OF THE NOSE THROAT AND MOUTH

Lawner: Tumors in the Neighborhood of the Oesophagus Pharyngeum Tumor (Geschwulst in der Gegend des oesophagus pharyngeum Tumor) Almondshilf (Oberniedel) Levy, in-Klinik 93 1, 362.
By Zentralblatt f. d. ges. Chir. Grouggeb.

A young physician, who since childhood frequently suffered from angina and nasal atrophy complained for 10 years of symptoms pointing to closure of the Eustachian tube. By means of posterior rhinoscopy and salpingoscopy yellowish white tumor the size of pea was seen on the upper surface of the right tube opening, in part covering the tube and in part compressing it. A second small tumor was situated in the pharyngeal tonsil. The first tumor as removed through the nose by means of snare and the second was removed with the entire tonsil containing it. Both tumors are cyst lined by flat epithelium. They are probably due to epithelial inclusion and vasa degeneration, following chronic inflammatory processes. The literature of benign and malignant tumors occurring in this region is given.

KLIMMER

Ray: The Tonsil Question Again. Laryngeal Month 93 1, 333.
By Surg. Gynec. & Obst.

The purpose of the paper is to insure that the operator use judgment selecting his cases, and surgical skill in carrying out the procedure. The author first takes up the essentials of the embryology anatomy and physiology of the tonsil with its history and the evidence in support of the belief in an internal secretion. He does not believe that the tonsils play any great part as portals of entry for infection in either rheumatism or tuberculosis.

His indications for removal are as follows: simple hypertrophy causing obstruction, cases of frequent recurring attacks of follicular tonsillitis in relapsing attacks of peritonsillar abscess, and in growths originating in the tonsil, also in some toxic conditions where the crypts are large and contain decomposing masses. He does not consider that the removal is indicated in middle ear disease nor as cure for the enlargement of the cervical glands.

In the discussion there was little else brought out as all of the men felt in which the author did in regard to the indications. The majority were in favor of tonsillectomy in every case though small portions of the lower poles might be left to functionate.

LA. LE B. FOWLER.

Carter: A Simple and Satisfactory Method for Removing Adenoids and Tonsils. Med Rec, 93, 1333, 1905.
By Surg. Gynec. & Obst.

In removal of the tonsil with the capsule the author uses spiral tenaculum which consists of two

spiral prongs, each compassing half circle attached to a long, slender shaft. These prongs are made only a half circle in length in order that it may be quickly and easily engaged and disengaged. With this the tonsil is pulled toward the median line. The tonsil separator consists of a short beveled blade, curved on the flat sharp both sides and the end and is used to cut through the plica and the mucous membrane along the margin of the pillars. The tonsil is pried out from its bed using the separator as a lever. The removal is completed with an Eve snare.

Adenoids are removed by sweeping with a Gottstein curette and the naso-pharynx wiped out by gauze wrapped around the finger.

EARL B. FOWLER.

Hape: Laryngeal Tumor Treated with Selenol. Proc. Roy. Soc. Med. 93, vi, Laryngol. Sect., 76.
By Surg. Gynec. & Obst.

The case reported was made 33 years old, suffering for several months with increasing dyspnea. Examination revealed the right arytenoid and ventricular band replaced by large red, smooth swelling, non-movable. Neither cord could be seen and there was practically no glottis. Diagnosis was made of swelling above malignant ulceration. There was definite thickening on the right side of the neck over the right ala of the thyroid and a small hard gland could be palpated.

Operative treatment was not devised because of the patient's general condition. Selenol (3cc.) was injected three times a week into the deep tissues near the right ala of the thyroid cartilage. Great relief was experienced after the second injection.

One month later by the direct method large fungating mass was seen involving the right side of the epiglottis on its laryngeal surface extending down through the glottis. Two weeks later the mass had largely disappeared.

Selenol is an electrolytic colloid of the metal selenium and may be injected subcutaneously intravenously or directly into the tumor. There is absolutely no toxic effect and the growth is said to either harden or liquefy.

EARL B. FOWLER.

Levy: Laryngeal Tuberculosis. J. Am. Med. Ass. 93 1, 38.
By Surg. Gynec. & Obst.

The author emphasizes very strongly the importance of early laryngeal examination in all cases of tuberculosis, referring to the strong way this has been brought forward in Germany. Among the earliest signs we find slight intermittent hoarseness. It is followed in many cases by unilateral hoarseness with or without slight redness and moderate swelling, usually occurring on the same side as the affected

he g. The onset of tubercle deposit is the commonest is frequently marked by early pain and shown by physical examination a circumscribed pale erythematous swelling the small grayish or yellowish pinpoint lesions distinctly beneath the mucous membrane embedded in it. Rubbing the surface of the tumor with examining bacteriologically. It often results in demonstrating the organism.

The prognosis is fair and improving. Brault gives the percentage of recovery as 48.

It is of the greatest importance to treat the thoracic nodes.

Rest of the otolaryngologist associated the general hygienic measures.

(a) no surgery

(b) Relief of pain by injection or section of the superior laryngeal nerve.

(c) The use of the boric acid. LARLEY H. FOWLER

Richardson The Treatment of Laryngeal Erythema Follicular Diphtheria. *Bureau of Hygiene* 1910. 10 p. 10. 40. B. Surg. Gynec. & Obst.

Stomach of the larynx follicular attack of laryngeal diphtheria or erythema of 3 percent of the cases. It is generally the result of poor oral hygiene (especially the use of the rubber mouthpiece) prolonged infection or severe infection or secondary infection. One or more of these factors result in pathological changes consisting of thickening of the mucous membrane of the mucosa granulation or ulcerations with formation of a white film and of persistent membrane.

The prophylaxis against these conditions the thoracic nodes the use of careful selection of bacteria to be killed by pyridine and not allowed to remain plus or less the use of the treatment must of the tracheotomy which put the part to be followed by dilatation of the straight tracheal tube tubes increasing the size of the maximum. These permitted to remain only few minutes at a time and reposition.

Richardson reports the worst report has been the history of his method.

B. Surg. Gynec. & Obst.

Higgins Apparently Non-Suppurative Nasal Disease. *Bureau of Hygiene* 1910. 10 p. 10. 40. B. Surg. Gynec. & Obst.

This author has been original and describing frequently diagnosis of non-suppurative

nasal disease of the accessory sinuses, non-inflamed. It is pus and characterized by a watery mucous discharge appearing especially in the morning, asthma, due to reflex irritation, cough, dry or in paroxysms, pain, varying in location with the sinus involved, dizziness, due to nasal congestion, asthenia and disturbance of the visual field. The physical signs upon which a diagnosis is based need not be pronounced.

If this is that otolaryngologist has arrived at the belief that all sinus diseases must reveal itself by the appearance of pus either by drainage or demonstrated by negative pressure as applied through the agency of the levator suction apparatus. Higgins states that if the ultimate diagnosis is based upon the findings of pus in any cases all go undiagnosed and untreated. Here treatment is rightly indicated for there is nasal sinus disease without pus discharge and yet with sufficient pathology to produce polyps, granulations and increased bone as well as vasculature and lymphatic stasis.

The author advocates operation in certain cases of negative findings including the newly described non-suppurative disease as well as some suppurative cases in which the usual diagnostic methods do not positively indicate pus. ELLIS J. P. STEVENSON

Ellis J. P. Stevenson Laryngoscopy. 11th Report of Cases. *Lancet* 1910. 10 p. 10. 40. B. Surg. Gynec. & Obst.

The article tells of the manner in which this method as discovered by Killian exact description of the mechanism and the technique of its use. Report of six laryngeal and operative cases demonstrating the advantages.

This method hook spatula which includes the tongue blade is suspended from the pallo, thereby doing away with the necessity of holding it and permitting of direct examination of the larynx, the patient being in the dorsal position. The patient takes passive part in the procedure suffers but little discomfort can tolerate prolonged operations. The larynx and is not annoyed by saliva or blood flowing in the trachea. The operator works in an easy position with both hands free, and has a full field of vision of the larynx to lose no ground and ample space for all necessary manipulation. The pathologist and the surgeon of the larynx can be better demonstrated to students by this method.

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INTERNATIONAL ABSTRACT OF SURGERY

OCTOBER, 1913

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGERY OF THE HEAD AND NECK

HEAD

Tufter: Traumatic Facial Hemispasm (*Hémispasme facial d'origine traumatique*). *Bull. et mem. Soc. de chir. de Par.* 93, xxxix, 906.
By Journal de Chirurgie.

Tufter presents the thirty-seven years old who was hit on the head and had fracture of the bony auditory canal followed by suppuration in the middle ear. Slight facial paralysis with facial asymmetry came on shortly and at the end of six weeks was succeeded by symptoms of facial spasm. With both gross and fibrillary contractions and some trouble with the sight.

The cause of the spasm is easily explained. The hitherto connection of the facial nerve and the tympanic cavity makes it easy for the nerve to be irritated by the products of a middle ear disease and so develop functional troubles. This lesion develops from the weeks to months after the trauma. Sometimes there is only spasm but there are contractures between the attacks of spasms are seen. Complicating lesions of the eye or ear may be present.

This condition may last for some time, even several years. Tufter's patient, after some weeks, seemed better and probably will recover entirely despite the fact that there are permanent auditory and equilibrium disturbances, for there is no reason of degeneration. The prognosis is good.

J. DUNCAN.

Earl: The Limitations and Possibilities of X Rays in Skull Diagnosis. *J. Laryng.* 93, xxxiii, 907.
By Surg., Gynec. & Obst.

Changes in the soft part of the brain, such as meningitis, abscess, hematomas or soft tumors do not produce sufficient change in density per se to be recognizable on the Roentgen plate. It is mainly

by their effect on the bony structures that diagnostic signs are obtained. Among the conditions producing local or general thickenings of the cranium are rickets, syphilis, acromegaly and osteitis deformans. Localized destructions may be endothelioma or metastatic tumors from the thyroid, mammary, prostate, ovary or suprarenal gland. An intra-cranial tumor may cause a marked local thinning of the skull by pressure atrophy.

Changes in the sella turcica and region may be due to hypophyseal tumor or to other basilar growths such as tumor or cyst of neighboring structures. Primary conditions of the sphenoidal sinus may alter the form of the sella with or without affecting the bone structure. A sign of general intracranial pressure may be found in the digital impressions of the wall of the cranium-scalloped impressions separated by ridges corresponding to the outlines of convolutions. Other compression signs are the widening of the channels for the diploic veins as when the cavernous sinus is compressed the sphenoparietal sinus is seen to be greatly enlarged.

The work of localizing foreign bodies in the eye or orbit and the detection of pus and tumors in the accessory sinuses of the nose is well established and used as routine in all the larger clinics.

HOLMES E. POTTER.

Brown: The Diagnostic Evidence Obtained by X Rays from the Lateral Aspect of the Skull, with Especial Reference to the Base and Its Antrum. *Bull. M. & S. J.* 93, clixvi, 232.
By Surg., Gynec. & Obst.

Since the contribution of Caldwell upon the value of the occipito-frontal projection of the cranium, the lateral projection has fallen more or less into disuse. All structures which are bilaterally placed are superimposed one upon the other and the picture thus obscured. But in lateral projections conditions

circulation or into the abdominal cavity (Kausch) is to be voided since by these methods the fluid is drained off too rapidly. On this count the fluid had better be led into the subdural space or into the subcutaneous tissue. A further drawback is the premature closure of the drainage opening. Wengowski made an attempt to obtain a form to be utilized in the dura, and establish a communication between the subdural space and the ventricle. When employing this method great care is necessary that the dural vessels remain in communication with the flap. Formerly Boyer used the dura, the repair of which is the subject of the following section.

The author has used this method in two cases of hydrocephalus internus. The anastomosis may be made with the anterior, posterior, or lateral ventricle. The fluid is drained partially into the subdural space and partially into the subcutaneous tissue. In this way the fluid is supplied for the gradual absorption of the liquid. The result in both cases operated on was very good. The late result in one case was likewise encouraging. After 3½ years the child's head was almost normal in its dimensions. The operative technique is simple, and can be carried out in the debilitated children.

Archibald. Puncture of the Corpus Callosum.

Canad. M. Ass. J. 9, 3, 1914, 45.

B. Surg. Gynec. & Obst.

The problem of how best to give relief for cerebral compression from unlocalizable tumor is often a very difficult one. It is generally recognized that the subtemporal procedure of Cushing is the method of choice for the purpose of pure decompression. Sometimes, however, this method proves insufficient in spite of a large submuscular hernia the symptoms persist. In such cases the reason may lie in the coincidence of a large hydrocephalus internus, such as is known to complicate cerebral tumor not infrequently. It was experiences of this sort which led to the puncture of the roof of the corpus callosum in an attempt to relieve the internal pressure.

The technique of the operation is as follows. On the right side, about a finger's breadth behind the coronal suture and 1 cm. from the midline an opening is made with the Doyen burr about 3½ cm. in diameter. A slit opening is made in the dura and care is taken to avoid any large cortical vein. Then a hollow curved cannula is pushed in over the convexity of the cortex till it strikes against the falx, which membrane guides the further progress of the cannula downward, till the corpus callosum is reached. The instrument breaks bluntly through this structure with very slight force, where upon the ventricular fluid is emptied, usually under some pressure.

The author reports four cases in which he performed puncture of the corpus callosum. Two were obstructive hydrocephalus of high grade in infants and the puncture gave only temporary relief. The

other two were cases of unlocalizable brain tumor. In the subtemporal decompression was first done and this gave temporary relief. A second operation was performed and the corpus callosum punctured. This resulted in control of the symptoms. In the other case the puncture of the corpus callosum was done first but relief was not obtained until a subsequent subtemporal decompression was performed.

JAMES H. SMITH

NECK

Poggiolini. Is It Always Possible to Avoid the Facial Twigs of the Cervico-Facial Branch of the Fifth Pair in Operations on the Submaxillary Gland? (Est-il possible d'éviter toujours les rameaux faciaux de la branche cervico-faciale de la 5^e paire, dans les opérations sur la loge sous-maxillaire?) *Chir. chir.* 9, 3, 1914, 600.

By Journal de Chirurgie.

Deviations of the lower lip are frequently noted after incisions in the submaxillary fossa and are due either to the division of the fibers of the platysma muscle or of the cervico-facial twigs of the facial nerve. They are comparatively unimportant, because, as a rule, they disappear spontaneously in time. It would however be desirable to avoid them altogether if possible. According to the author, incisions must not be made in a region limited above by the posterior 3/5 of the lower border of the jaw below by a line parallel with, and 1 inch distant from, the prementum behind, by the anterior border of the sterno-mastoid muscle in front by a line directly uniting the two first mentioned.

Six diagrams show the lines of incision the author considers safe. It may be objected that these lines remain far in front of the region where adeno-phlegmons of a very common variety have to be drained.

PIERRE FARRAT.

Halpenny. The Thyroid and Parathyroid Problems. *Surg. Gynec. & Obst.* 9, 3, 1914, 505.

By Surg., Gynec. & Obst.

The etiology of the enlargement and perverted secretion of the thyroid gland is still in doubt. It has been regarded as infection, but could not be so demonstrated by Chambers by bacteriological methods. Chambers' work, however, points to the presence of toxins. McCarrison produced goiter by using the filtrate of goitrous well but when the filtrate was boiled goiter could not be produced. Short believes goiter to be due to some metal which unites with iodine to form an insoluble compound.

Experiments by the author show that when the thyroid is removed the parathyroids assume the histological features of the thyroid. It is also noted that structural changes take place in the pituitary body when the thyroid is removed. Rogers' experiments indicate that there is an intimate relationship between the thyroid, pancreas and adrenals. Carlson and Woelfel demonstrated that goiter lymph when injected intravenously did not give any untoward results.

Rogers discovered thyroglobulin and nucleoprotein as separate substances. Minute quantities of nucleoprotein injected subcutaneously produced acute thyroidism. The experiments up to date have not settled the question as to whether the symptoms are due to perverted or to increased thyroid secretion.

In the treatment of this condition the author recommends rest, quinine hydrobromate, thyroid and Rogers antithyroid serum. Along surgical lines he advises partial removal of the gland using Crile method of eliminating fear and nitrous oxide anesthesia. Dunhill operates in all cases and uses local anesthesia.

Turn. Morphological Studies in Experimental Cretinism. *J. Exp. Med.* 93, 1911, 695.

By Surg., Gynec. & Obst.

Morphological observations were made on a number of rabbits which were thyroidectomized at the age of two or three weeks. At least two animals out of each litter were kept as controls. All were weighed at regular intervals. The present paper is based on a series of about twenty-five autopsies. The important observations may be summarized as follows:

Degenerative changes were noted in practically every parenchymatous organ. The most striking of these changes was serious lamellation by the most active cells of these organs. The changes noted in the glands of internal secretion corroborated the statement that removal of one gland if internal secretion results in changes in all the others. In this case degenerative changes were marked in the hypophysis, thymus, ovary and testes. Male hyperplasia was seen in the Islands of Langerhans and the medulla of the adrenal glands.

Turn concludes that in the rabbit thyroidism is responsible for grave degenerative changes in practically all organs and tissues of the body and that many of the symptoms of cretinism have an anatomical basis in organic cellular changes.

J. F. C. WOOD.

Klein. The Frequent Occurrence of Mild Cases of Basedow Disease and the Favorable Influence Exerted upon Them by Hygienic-Dietetic Factors. (Über das häufige Vorkommen leichter Basedowfälle und ihre günstige Beeinflussung durch hygienisch-diätetische Faktoren.) *Med. Klin.* 93, 11, 834.

By Zentralbl. f. d. ges. Chir. Grosseck.

The author is able to observe many recruits with mild Basedow disease, the diagnosis being confirmed by Rehn. If ordered them to service and in spite of the severe bodily exertion incident to service an improvement and even disappearance of all nervous and cardiac symptoms set in. The conclusion is drawn that Basedow disease is not always to be considered etiologically as thyrotoxicosis, but that the primary factor frequently is disease of the nervous system. The condition improves under

carefree and hygienically favorable life, even though absolute rest is not adhered to. The author believes with Kirschmann that the vaso sympathetic cause of Basedow must be accepted in many cases. The fact that cure is obtained by operation does not contradict the theory as secondary thyroid dangers also may induce the Basedow symptoms. A table showing the findings of eleven cases examined in the Charité is appended.

SCHWARTZ.

Mannaberg. An Attempt to Influence Basedow's Disease by X Rays Applied to the Ovaries. (Über Versuche die Basedowische Krankheit mittels Röntgenbestrahlung der Ovarien zu beeinflussen.) *Wien. Med. Wochenschr.* 93, 1911, 693.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grosseck.

Based upon the theory of an interrelation existing between the thyroid gland and ovaries the author attempted to influence Basedow's disease by applying X-rays to the ovaries. The investigations were conducted on ten patients. In eight cases an increase in weight from 2.5 to 10 per cent occurred. In half of the cases the exophthalmos decreased or disappeared entirely in one instance. The pulse rate decreased considerably in some cases, in others only slightly. Tremor was influenced favorably. The circumference of the neck and menstruation were not influenced. In three cases existing diarrhoea disappeared after the first treatment. In cases which improved under X-ray treatment became worse after the application of the rays to the thyroid gland, the third case remained unaffected.

LINCOLN.

Schloffer. The Operative Treatment of Basedow Disease. (Über die operative Behandlung der Basedowischen Krankheit.) *Frag. med. Wochenschr.* 93, 1911, 33.

By Zentralbl. f. d. ges. Chir. u. Gynäk.

The author discusses the relations between the thyroid gland and the thymus and between the former and the thyrotoxic heart. With internal treatment only temporary improvement takes place. If operative treatment about 75 per cent of the cases result in cure. Death following the operation occurs only in advanced cachexia due to status lymphaticus. The operation usually performed is the excision of half lobe, preceded in each individual by ligation of the vessels. The thyroids inferior should be saved on account of the danger of causing injury to the parathyroids. An aggravation of the symptoms occurs immediately after the operation, but about 1 day improvement sets in the restlessness, sleeplessness and tachycardia disappearing. Gradual recession of the other phenomena and increase in weight takes place. The exophthalmos persists for considerable time. Naturally any irreparable cardiac degeneration remains. In 70 per cent of the cases, however, general improvement occurs.

The author then states his own results. Early operation is advised. In acute cases it is best to

Rogers discovered thyroglobulin and nucleoprotein separate substances. Min 1 quantities of nucleoprotein injected subcutaneously produced acute thyroidism. The experiments at date have not settled the question as to whether the symptoms are due to perverted or to increased thyroid secretion.

In the treatment of this condition the author recommends rest, quinine, hydrobromat, thymol and Rogers antithyroid serum. Along surgical lines he advises partial removal of the gland, using Crile's method of ligation of fear and nitrous oxide anesthesia. He will operate on all cases and use local anesthesia.

Turner Morphological Studies: Experimental Cretinism. *J. Exp. Med.* 1912, 6:10.
By Surg. Cyner & Otis.

Morphological observations are made on a number of rabbits which are thyroctomized at the age of 1 or three weeks. At least 10 animals out of each litter were kept as controls. All were weighed at regular intervals. The present paper is based on a series of about 1000 topicals. The important observations may be summarized as follows:

Degenerative changes were noted practically every parenchymatous organ. The most striking of these changes were atrophy and inhibition of the most active cells of these organs. The changes noted in the glands of internal secretion corroborated the statement that removal of one gland of internal secretion results in changes in all the others. In this case degenerative changes are marked in the hypophysis, the ovary, the testes, the spleen, the placenta, even the glands of the skin and the medulla of the adrenal glands.

The authors conclude that the blood thyrotoxicity is responsible for grave degenerative changes practically all organs and tissues of the body and that many of the symptoms of cretinism have anatomical basis in organic cellular changes.

Klein The Frequent Occurrence of Mild Cases of Basedow Disease and the Factors Exerted upon Them by Hygienic-Alimentary Factors. *Über die häufige vorkommenden leichten Basedowitiden und über ihre hygienisch-ernährungsbedingte Entstehung.* *Med. Abh.* 1912, 11:1.

By Zenk, H. d. ges. 12. (Graz.)

The author also observed many recruits with mild Basedow disease the diagnosis being confirmed by Reber. He ordered them to serve and in spite of the severe bodily exertion incident to service improvement and even disappearance of all nervous and cardiac symptoms set in. The conclusion is drawn that Basedow's disease is not always to be considered etiologically as thyrotoxicosis, but that the primary factor frequently is disease of the nervous system. The condition improves under

care of rest and hygienically. It is to be noted that the patient does not adhere to the Kurat's treatment of Basedow's disease. The fact that cure is obtained contradicts the theory as also may induce the fact showing the findings of Charité is presented.

Mannberg A Attempt to Cure Basedow Disease by X Rays. *Über Versuche, die Röntgenstrahlung bei der Behandlung der Basedow'schen Krankheit zu gebrauchen.* *Arch. f. Klin. u. Exp. Med.* 1912, 11:1.

Based upon the theory that the thyroid gland is the seat of the disease, the author attempted to influence it by X rays. The ovaries were also irradiated on ten patients. The results were as follows: In eight from 1/2 half of the cases the disease disappeared entirely, in four decreased considerably, in only eight the disease remained. The cure was not influenced by the duration of the disease. Two cases which became worse after the thyroid gland was removed.

Schlosser The Effect of X Rays in the Treatment of Basedow Disease. *Über die Wirkung der Röntgenstrahlung bei der Behandlung der Basedow'schen Krankheit.* *Arch. f. Klin. u. Exp. Med.* 1912, 11:1.

The author describes his experience with the treatment of Basedow disease by X rays. The results were as follows: In eight from 1/2 half of the cases the disease disappeared entirely, in four decreased considerably, in only eight the disease remained. The cure was not influenced by the duration of the disease. Two cases which became worse after the thyroid gland was removed.

ed in overcoming certain difficulties and a telling certain dangers of intrathoracic resection of the esophagus. It calls attention to Sauerbruch's view that only the carcinoma near the neck or near the cardia should be resected, and that the carcinoma in the middle portion should be left untouched. In contrast to this the author states that the carcinoma near the cardia is not only rarer than those in the middle portion but is also more frequently associated with operable metastases. The carcinoma in the middle portion therefore plays a more important role in the problem of cancer of the esophagus. Among the dangers of the operation were injury to the lungs and leakage from the oral stump of the esophagus after resection.

The patient was a woman 6 years old. The tumor was situated in the middle portion of the esophagus, beginning just below the arch of the aorta and extending one and three fourth inches down. Gastrostomy had been performed some time previous. Anesthesia by tracheal intubation was employed. An incision was made through the whole length of the seventh intercostal space, from the posterior end of which it was extended forward by cutting through the seventh, sixth fifth and fourth ribs near their borders. This gave excellent access to the parts. Extensive dissections between lung and parietal pleura were separated. The portion of the esophagus below the tumor was lifted out of its bed after laying the vagi aside. Over the tumor the dissection of the vagi was more difficult requiring

the division of some branches crossing it. During this procedure the pulse remained steady between 95 and 96. The dissection of that part of the esophagus which passed behind the arch of the aorta proved difficult. It was accomplished by dislodging the aorta after dividing a number of its thoracic branches.

The tumor was attached to the left bronchus which was cut during the process of separating the tumor from it. This was afterward sutured with silk. The dissection of the esophagus was continued all the way up to the neck. It was divided with a cautery at a safe distance below the carcinoma after double ligation the lower stump was invaginated and the upper brought out through an incision in the neck at the anterior border of the left sternocleidomastoid muscle. It was then placed under the skin of the chest, the cut end, after resection of the carcinoma, being sutured to an incision in the skin made for that purpose. Thus an infection of the pleura from the esophagus was rendered impossible.

The thorax was closed without drainage. The patient made a good recovery. On the seventh day when the last stitches were removed, the wound was completely closed. Feeding is done by introducing the upper end of gastrostomy tube into the end of the esophagus when the patient swallows, the food passes through this tube into the stomach. There are several methods of esophagoplasty that could be employed. The author urges early diagnosis and early operation.

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Kuerner: A Pedunculated Necrotic Tumor of the Six of the Sixth Left Region of the Umbilicus (Ein nekrotischer aber langgestreckter Tumor welcher breit gestielt in der Gegend des Nabels sass). *Deutsche Gesellschaft für Gynäkologie, Halle, 9. 3. 1914.*

By Zentralblatt für Gynäkologie, Geburtshilfe und Gynäkologie. A 34 year old multipara, who aborted 7 years previously, complained of pain in the right inguinal region. About 2 weeks later the skin in the region of the umbilicus ruptured and pus exuded. For a short time a pink tumor protruded, which later turned black.

Bimammary examination showed an empty pelvis and the uterus lying just behind the abdominal wall, which was densely infiltrated. Fever was present. The tumor was removed with Paquelin's cautery. The stalk consisted mostly of fibrous tissue and the tumor smooth muscle with some connective tissue. In 2 months the epithelium was entirely restored, and the infiltration of the abdominal wall disappeared. It was then discovered that the left border of the tumor was adherent to the abdominal wall in the region of the umbilicus. The histological findings as well as the fixation of the

tumor could speak more in favor of subserous myoma of the uterus than necrotic abdominal wall desmoid. It is not improbable that the stalk of the subserous polyp became attached to the tumor becoming adherent to the wall of the abdomen in the umbilical region where the rupture took place.

Machefer: Biliary Peritonitis without Perforation of the Bile Passages (Les peritonites biliaires sans perforation des voies biliaires). *Thèse de doctorat, Paris, 9. 3.* By Journal de Chirurgie.

This study is based on a personal case and sixteen found in the literature. The author thinks the peritoneal effusion in these cases is really bile though the macroscopical appearance is the only proof as chemical examinations are either lacking or doubtful. He does not believe that the condition is an ordinary peritoneal collection discolored by bile absorption. The bile may reach the peritoneal cavity through an unrecognized perforation of a duodenal ulcer, through a perforation of the duodenum, the gall-bladder or the bile ducts or it may filter through the surface of the congested liver or the walls of the gall-bladder. The latter is the hypothesis accepted by the author. The filtration is

Keen thinks it possible that when the disease has invaded the medullary canal, operation may already be too late on account of the physiological fact that the bone marrow has a share in the production of the red blood cells.

Notwithstanding the fact that the operation is a long and tedious one, the mortality is only about 4 per cent in tumor cases and 5 per cent in trauma. The chief dangers are due to hemorrhage and shock. The hemorrhage may be very materially limited by tying the axillary artery and vein, a procedure which is made comparatively easy by resecting part or all of the clavicle as recommended by Le Conté. Carno does not think this procedure necessary unless the clavicle be diseased and states that in his experience the difficulties of the operation are very much lessened by first dividing the pectoral muscles from above downward as close as possible to their origin, for the reason that it is very easy to include the artery and vein in the clamps applied to the muscles, and afterwards resecting the middle third of the clavicle either without removing the periosteum, where the clavicle is not involved, or subperiosteally where the clavicle is involved. Having done this, the subclavius muscle and fascia covering the vessels and nerves should be carefully divided and drawn outward, thus fully exposing the vessels and nerves. The artery should be tied first, the limb elevated until it is blanched and the vein tied. By this procedure much blood is saved.

By blocking the nerves, shock may be lessened or even prevented in some, though not in all cases, depending some has on the amount of hemorrhage. Either by the intra-axillary infiltration method is the anesthetic of choice since it seems to limit shock and diminish post-anesthetic effects.

In traumatic cases infection plays a very important rôle, yet this is not necessarily fatal complication since Treves operated on such cases on the battle-field and complete recovery resulted. The two cases reported by Carno — one with epithelioma following an old extensive burn of the arm, the other round celled sarcoma of the arm, probably arising from the periosteum — made good recovery. If after these patients are up and about they complain of lopsidedness, artificial shoulder and arm, properly fitted, will relieve this very annoying condition.

HARVEY B. MATTHEWS

Sternberg. Indications and Technique for Artificial Pneumothorax in Pulmonary Tuberculosis (Zur Frage der Technik und Indikation des künstlichen Pneumothorax bei Lungentuberkulose). *Verhandl. d. med. Ver. d. Arch. d. allg. Oberchir.-Krit.* St. Petersburg 9 3 22, 27.

By Zentralbl. f. d. ges. Chir. Gruppe

The author draws conclusions from forty-three cases treated by means of artificial pneumothorax. Puncture is to be preferred to open operation. The dangers of gas embolism can only be overcome if manometer readings are carefully made. The advantages of puncture are less traumatic and fewer

chances of infection, as well as a higher percentage of successful results. The author succeeded in producing pneumothorax in all his cases in spite of the case with which the opening healed. Future indications with gas must be governed strictly by the individual cases regarding the amount and the time intervals in order that the condition of the patient may not be seriously disturbed.

The author divides the indications into two groups. The first belong cases of advanced unilateral involvement which offer a poor prognosis, and above all those cases of diffuse unilateral aspiration pneumonia following hemorrhage, and followed by high temperature with little tendency towards resolution. The second group constitutes a relative indication and consists of cases in which toxemia has subsided but with marked unilateral anatomical changes, cases with small but rapidly advancing lesions and cases with brisk and frequent hemorrhages. Contrary to Forlanini, the author does not consider the establishment of pneumothorax advisable in incipient cases of tuberculosis since these respond well to other methods of treatment and since the production of pneumothorax is usually followed by hypertrophy of the right heart. Pneumothorax is contraindicated in advanced bilateral cases and in those complicated by cardiac and renal conditions.

VON SCHMIDT.

Sternberg. Artificial Pneumothorax for Pulmonary Hemorrhage (Über künstlichen Pneumothorax bei Lungenhämorrhagien). *Verhandl. d. med. Ver. d. Arch. d. allg. Oberchir.-Krit.* St. Petersburg 9 3 22, 34. By Zentralbl. f. d. ges. Chir. u. L. Gruppe.

This is a report of 16 cases of pulmonary hemorrhage with hopeless prognosis. After total injection of 500 cc of nitrogen, the hemorrhage was controlled. The temperature fell from 39° C. to normal in short time and the general condition was good.

VON SCHMIDT.

PHARYNX AND ESOPHAGUS

Nigg. Cast of Epithelial Lining of the Esophagus from a Case of Chloroform Poisoning. *Proc. Roy. Soc. Med.*, 19 3 16, Laryngol. Sect. 3. By Surg. Gynec. & Obst.

The patient drank and vomited one ounce of chloroform. On the third day she reached the cast. Treatment with blanchet carbonate, laudanum and paroline accompanied by rectal feeding was continued thirteen days. Esophagography three months later revealed no tendency of the esophagus to contract.

EARLE B. FORTIN.

Torck. The First Successful Case of Resection of the Thoracic Portion of the Esophagus for Carcinoma. *Surg. Gynec. & Obst.* 9 3 22, 624. By Surg. Gynec. & Obst.

After reviewing the causes of failure in the operation for carcinoma of the esophagus, Torck describes the method of operating by which he succeed

ed in overcoming certain difficulties and avoiding certain dangers of intrathoracic resection of the esophagus. It calls attention to Sauerbruch's view that only the carcinoma near the neck or near the cardia should be resected, and that the carcinoma in the middle portion should be left untouched. In contrast to this the author states that the carcinoma near the cardia are not only rarer than those in the middle portion but are also more frequently associated with inoperable metastases. The carcinoma in the middle portion therefore play a more important rôle in the problem of cancer of the esophagus. Among the dangers of the operation were injury to the vagi and leakage from the oral stump of the esophagus after resection.

The patient was a woman, 67 years old. The tumor was situated in the middle portion of the esophagus, beginning just below the arch of the aorta and extending one and three fourth inches down. Gastrostomy had been performed some time previously. Anesthesia by tracheal intubation was employed. An incision was made through the whole length of the seventh intercostal space, from the posterior end of which it was extended upward by cutting through the seventh, sixth, fifth and fourth ribs near their tubercles. This gave excellent access to the parts. Extensive adhesions between lung and parietal pleura were separated. The portion of the esophagus below the tumor was lifted out of the bed after laying the vagi aside. Over the tumor the dissection of the vagi was more difficult requiring

the division of some branches crossing it. During this procedure the pulse remained steady between 93 and 96. The dissection of that part of the esophagus which passed behind the arch of the aorta proved difficult. It was accomplished by dislodging the aorta after dividing a number of its thoracic branches.

The tumor was attached to the left bronchus which was cut during the process of separating the tumor from it. This was afterward sutured with silk. The dissection of the esophagus was continued all the way up to the neck. It was divided with a artery at safe distance below the carcinoma after double ligation the lower stump was invaginated and the upper brought out through an incision in the neck at the anterior border of the left sternocleidomastoid muscle. It was then placed under the skin of the chest, the cut end, after resection of the carcinoma, being sutured to an incision in the skin made for that purpose. Thus an infection of the pleura from the esophagus was rendered impossible.

The thorax was closed without drainage. The patient made good recovery. On the seventh day when the last stitches were removed, the wound was completely closed. Feeding is done by introducing the upper end of a gastrostomy tube into the end of the esophagus when the patient swallows, the food passes through this tube into the stomach. There are several methods of esophagoplasty that could be employed. The author urges early diagnosis and early operation.

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Kustner: A Pedunculated Necrotic Tumor of the

Size of the Flat in the Region of the Umbilicus (Ein nekrotischer über Leutgroßem Tumor welcher breit gestielt in der Gegend des Nabels sass)

Deutsche Gesellschaft für Gynäk. u. Geburtsh. 93. May

By Zentralblatt für Gynäk. u. Geburtsh. d. Grenzgeb.

A 34 year old multipara who aborted a year previously complained of pain in the right inguinal region. About a week later the skin in the region of the umbilicus ruptured and pus exuded. In a short time a pink tumor protruded, which later turned black.

Bimammary examination showed empty pelvis and the uterus lying just behind the abdominal wall, which was densely infiltrated. Fever was present. The tumor was removed with Paquelin cautery. The stalk consisted mostly of fibrous tissue and the tumor smooth muscle with some connective tissue. In two thirds the epithelium was entirely restored and the infiltration of the abdominal wall disappeared. It was then discovered that the left border of the uterus was adherent to the abdominal wall in the region of the umbilicus. The histological findings as well as the fixation of the

uterus would speak more in favor of a subserous myoma of the uterus than a necrotic fibroid. The tumor was removed. It is not improbable that the stalk of the subserous polyp became twisted, the tumor becoming adherent to the wall of the abdomen in the umbilical region, where the rupture took place.

Machefer: Biliary Peritonitis without Perforation of the Bile Passages (Les peritonites biliaires sans perforation des voies biliaires). Thèse de doctorat. Par 93. By Journal de Chirurgie.

This study is based on a personal case and sixteen found in the literature. The author thinks the peritoneal effusion in those cases is really bile though the macroscopical appearance is the only proof as chemical examinations are either lacking or doubtful. He does not believe that the condition is an ordinary peritoneal collection discolored by bile resorption. The bile may reach the peritoneal cavity through an unrecognized perforation of the duodenal ulcer through a perforation of the duodenum, the gall-bladder or the bile ducts or it may filter through the surface of the congested liver or the walls of the gall-bladder. The latter is the hypothesis accepted by the author. The filtration is

supposed to take place either through the hypertrophied mucous diverticula (canals of Luschka) or through abnormal lymphatic channels, or account for chemical changes in the composition of the bile. Machefer agrees with authors who ascribe it to changes in the walls of the gall-bladder (sometimes caused by the Eberth bacillus) biliary hypertension due to blocking of the passages by calculi being favoring, but not altogether necessary factor. The real mechanism, which would account for the fact that the above mentioned lesions are common while biliary peritonitis is so rare, is unknown.

The effusion contains, besides bile, fluid exudate produced by the peritoneal reaction. According to the degree of septicity of the bile there is an acute peritonitis with little purulent fluid and few pseudomembranes, or subacute peritonitis with large amount of bile-colored serum. This effusion is always free; it collects at first on the right side, it may remain there, without any adhesions to confine it. It sometimes contains typhoid or colon bacilli.

The signs are those of peritonitis. The onset is sudden. There is usually no jaundice as there is in biliary peritonitis following perforation of the bile passages. The peritonitis is either cut with little effusion and prompt fatal outcome, subcut with large effusion and attenuated symptoms. The prognosis is unfavorable. The diagnosis from appendicitis, peritonitis due to perforation of the bile channels and intestinal obstruction is difficult.

The treatment is evacuation of the collection followed by cholecystectomy or cholecystostomy when the common duct is occluded or obstructed. The post operative treatment is that of all cases of peritonitis.

L. HORN

Clairmont and Von Haberer. Remarks on the Contribution of Prof. Nawrock and Dr. Lubke. Does Biliary Peritonitis Exist Without Perforation of the Bile Passages? (Bemerkungen zu der Arbeit von Prof. Nawrock und Dr. Lubke. Gibt es eine gallige Peritonitis ohne Perforation der Gallenwege?) *Deutsches Archiv für Klin. Med.* 1913, 134, 80.

By Zentralbl. f. d. ges. Chir. u. f. Grenzgeb.

The authors reported a case of biliary peritonitis without perforation of the biliary passages, in which also the pathologist was unable macroscopically to find any perforation or even suspicious areas. Contrary to the view of Nawrock and Lubke who consider perforation of the bile passages as always necessary for the formation of biliary peritonitis, the authors on the basis of the published cases come to the conclusion that the following pathological and anatomical findings are the basis of biliary peritonitis without perforation. A slit-like perforation demonstrable only at autopsy is present. A primary thinning of the wall (microscopically demonstrable) exists through which in all probability the bile has exuded. 3. On account of dilation of the subserous bile passages of the liver small per-

foration has probably resulted. 4. In other cases perforation may not be demonstrable even at autopsy but an abnormal permeability of the walls to bile is present as in the case reported. In all these conditions the same clinical picture prevails at operation: the surgeon is unable to find the place of exit of the bile and attack it surgically. U. von ECKEN.

Barnard H. Pneumococcal Peritonitis (Zur Frage der Pneumokokkenperitonitis). *Chirurgia*, 9, 3, April 1917.

By Zentralbl. f. d. ges. Chir. u. f. Grenzgeb.

In 1910 Rohr collected 59 cases of pneumococcal peritonitis from the literature. In Russia the cases have but rarely been observed and described. The author reports two cases operated upon successfully. The first patient was a girl six years old, who became ill with colic previously with abdominal symptoms. In the left hypochondrium fluctuating swelling developed. At the operation, after opening the peritoneal cavity about three glasses of greenish-yellow pus were evacuated. The cavity was then tamponed. A cure resulted. The second case was a boy fourteen years old, who became ill with similar symptoms. Here also an encapsulated accumulation of pus developed which was drained by laparotomy and the cavity tamponed. The patient recovered.

In both cases the bacteriological examination of the pus showed pure culture of pneumococci. The way by which pneumococci enter the abdominal cavity are variable. In pleuritis the pneumococci enter through the diaphragm. Pathologically and clinically two large types can be differentiated. The localized and the general diffuse. The localized form offers a decidedly better prognosis. Both of the author's cases belong to this group. The diagnosis of pneumococcal peritonitis is very difficult, as only general peritonitic symptoms appear. Rohr's statistics show 56.3 per cent recovery for the localized form and only 68 per cent for the diffuse form. The treatment, of course, must be operative and at the earliest possible moment. See also.

Wendel. Retrograde Incarceration? ("Hernia en W." (Die retrograde Incarceration, Hernia en W.). *Ergebn. d. Chir. u. Orthop.*, 1913, 4, 196.

By Zentralbl. f. d. ges. Chir. u. f. Grenzgeb.

Under retrograde incarceration and hernia en W. have been described cases in which beginning complete gangrene of loop of bowel not lying within the hernial sac has occurred, the contents of the sac being entirely normal. Both terms are however not synonymous. hernia en W. can occur without incarceration and retrograde incarceration can occur also in other hernias. In retrograde incarceration of free end of organs as the appendix, the omentum and vary the relations are very simple if the gangrene is easily explained as being due to partial or complete constriction of the vessels leading from the abdominal end of the organ. The condition is different, however in the case of the bowel.

The author has collected 78 cases from the literature and comes to the following conclusions. Retrograde incarceration occurs most commonly in old people with old and large hernias. The contents of the hernia may consist of one to three separate loops of bowel, or of mesentery alone. The loops are usually incarcerated but not always. The connecting loop may be intact. Although the herniated loops may be incarcerated. Frequently the hernial loop is much altered and gangrene usually sets in remarkably early. The mesentery of the connecting loop may be incarcerated in the hernia or not. Even when it is not incarcerated it may show marked vascular changes which are sharply limited and may form arcade-like figure. The genesis of hernia in W. therefore is not identical with the genesis of retrograde incarceration. The gangrene or the nutritional disturbance of the connecting loop is due either to incarceration of the mesentery

compression of the same, account of tension and traction possibly also account of kinking of the distended connecting loop. The distention and fecal stasis with its bacterial and mechanical disturbances also can aid in the production of gangrene of the connecting loop. The author divides combining the two conditions described as retrograde incarceration and hernia in W. under the term retrograde incarceration, limiting it only to conditions in which during hernia that loop of bowel continuous with the herniated loop has decided frictional disturbances, the explanation of which must be sought in the hernial relations and not purely abdominal causes.

The author then discusses the diagnosis, prognosis and treatment. He divides risking resection rather than an enterostomy. Occurs

Swetschkow. A Case of Spontaneously Incarcerated Diaphragmatic Hernia of the Stomach, the Spleen and Loop of Bowel (*Ein Fall von spontan incarcerierter diaphragmaler Hernie des Magens, der Milz und einer Darmschlinge*). *Monatsschr. Chir.* 9, April.

By Zentralbl. f. d. ges. Chir. 1. Grenzgeb.

A healthy young Austria sailor twenty-four years old, while performing some labor was taken ill with severe pains in the epigastrium. A milking set in shortly after and was repeated during the next few days. The epigastrium was sensitive to pressure and rigid. During the next twelve days the objective findings increased. The patient passed flatus and fecal matter. Pulse 64. The tongue was moist but coated. On the third day after the onset, cyanosis of the head as present especially of the ears. The pulse was hardly palpable on the left side. On the right it was weak, 35 per minute. The patient complained of pains in the epigastrium especially during deep expiration. A vomiting or singultus, but marked meteorism in the upper abdomen, of the left flexure of the colon, transverse colon, ascending colon and right iliac fossa was present. The left iliac fossa as sunken and dull, whereas the other

parts were tympanitic over the lower portions of the left lung, tympanitic sound was heard, gradually merging into the stomach tympany. The abdomen was highly sensitive, rigidity marked, tongue moist and clear.

After the administration of high enemata of oil and saltier water little fecal matter and much foul gas were expelled. The subjective condition improved, the meteorism decreased. The rigidity disappeared over the entire abdomen except in the epigastrium. Pulse 90. Cyanosis much less. The operation was therefore postponed. On the following day the cyanosis of the face and ears returned. Pulse 120. The abdomen was not distended or sensitive. Edge of the liver became palpable. It was soft and not sensitive. Cardiac tones clear and in normal location. The tympany over the lower edge of the left lung less marked. No vomiting, but the patient regurgitated everything that he swallowed. After another high enema some gas was expelled. The patient passed good night. The abdomen next morning was soft and insensitive. The liver was markedly enlarged but not sensitive. The epigastrium was not distended, but was sensitive. A swelling was observed over the 3-4 rib interval to the left mammary line. Tympany was definite over the lower border of both lungs, more marked on left side. Cardiac dullness not definite and the impulse as absent. The patient could be only on the left side, and regurgitated everything he swallowed. By evening the heart was pushed further to the right. The left half of the thorax was tympanitic posteriorly the falling drop sound could be heard. Hippocratic excussion could be elicited.

A diagnosis of diaphragmatic hernia was made and the operation performed by Gerulano. The stomach was absent from the abdominal cavity. The diaphragm on the left side was found bulging into the abdomen and tense. The edges of a tear could be palpated as firm tense bands. The abdominal incision was enlarged transversely and the stomach punctured through the diaphragm. It became possible to introduce fingers into the diaphragmatic wound and enlarge it. The stomach filled the entire left thoracic cavity to the second rib. Adhesions had formed between it and the pleura and could not be replaced. Following further enlargement of the diaphragm-opening the heart ceased to beat and expiration stopped. It was impossible to revive the patient. Only with difficulty was it possible to separate the stomach from its adhesions. A loop of bowel was first brought out, then the spleen and finally the gangrenous stomach.

Important points in the differential diagnosis from other incarcerations are the cyanosis, the unequal radial pulse, the clean moist tongue, the regurgitation of the small amount of fluid without any attempts at vomiting, the tympany over the lower portions of the lungs and the displacement of the heart.

Houshark.

Schmidt: The Radical Operation for Intestinal Hernia with Incomplete Hernial Sac; Sinking Hernia (Zur Radikalanoperation der Darmbrüche mit incompletem Bruchhals). *Darmgastrobrüche*. *Deutsche Zeitschr. f. Chir.* 1913, cxviii, 566.

By Zentralbl. f. d. ges. Chir. n. I. Grenzgeb.

Schmidt reports the history of three interesting cases observed and operated by him. He then discusses the work of Sprengel, Finsterer and Sodeck, as well as the anatomy and operative technique of these herniae. From the results of his work he concludes that in a sliding hernia of the colon on the right side a one-angled loop of colon is involved whereas the left side two-angled loop enters into the hernia. In opening a sliding hernia extreme care must be employed, so as not to open the bowel. The reposition of such a sliding hernia must be accomplished by inversion, which is illustrated by drawings.

Superfluous parts of the free hernial sac are to be removed, but one must be careful not to divide the blood-vessels supplying the bowel. Before severing the sac it is held against the light to see if it is empty. In general its anterior and inner surface may be removed without danger, as the bowel and vessels lie posteriorly and laterally. If reposition is difficult the abdominal wall may be split in the angle of the outer part of the ring. If the spermatic cord is closely adherent to the sac it is advisable to implant the testis into the abdomen rather than to castrate. *VON TAYLOR*

Tate: Sarcoma of the Omentum. *Am. J. Obst. & Gynec.* 1913, lxxv, 41.

By Surg., Gynec. & Obst.

Tate reports a case of sarcoma of the omentum and tabulates 8 cases which he finds in the literature to date. His patient was male, 5 years of age, who had a left inguinal hernia for years which had required the use of truss. The rupture had occasioned no particular discomfort until three months previously when it had begun to produce some pain. A few weeks prior to operation the hernial mass had started to increase in size so that for these two reasons the patient was operated. At operation the mass was the size of a coconut and was composed of omentum in which was embedded the testicle and cord. There was also considerable amount of paraffin in the sac which had been injected two years previously by some one for the attempted cure of the hernia. The mass with testicle and paraffin were removed and the hernia repaired. The microscope showed the mass to be round-celled sarcoma of the omentum while the testicle was normal. The patient was seen 18 months later and had a large secondary growth in the abdomen, but refused further operative attention.

By SPENCER HENLEY

Benedict: Chylous Cyst of the Mesentery. *Surg. Gynec. & Obst.* 1913, xvi, 605.

By Surg., Gynec. & Obst.

The author supplements Friend's list of 53 cases in the issue of the same journal for July 1912.

Excluding duplicates, the list is brought up to 96 cases although Benedict had previously excluded four in Friend's list as probably pseudo-chylous and thinks that few more may be so or that duplicates may exist on account of listing under different names. He carries the literature back to Foery, J. 1860, and adds four other cases antedating Kokitany's report of 84 commonly regarded as the beginning of the history of this condition. There seems to be no sex or age predilection and the prognosis is surprisingly good: 60 recoveries, 14 deaths, unspecified results after operation and cases diagnosed at necropsy some of the last having lived for years with the tumor.

Aspiration was performed in 5 cases, drainage mainly after preliminary incision in 24, some form of excision or resection in 5, and marsupialization in 4. The result appeared to depend not on the method of operation, but upon the condition of the patient, i. e. whether he had an occlusion of bowel, peritonitis, sepsis, etc.

Drummond: The Surgical Aspects of Persistent Meckel's Diverticulum. *Surg. Gynec. & Obst.* 1913, xvi, 658.

By Surg., Gynec. & Obst.

The paper is based upon a review of the surgical records of the Royal Victoria Infirmary, Newcastle upon-Tyne, extending over a period of twelve years.

There were twenty-two cases of acute abdominal disease resulting from persistent Meckel's diverticulum, seven of which became inverted into the small intestine and produced intussusception—making 7 per cent of all the cases of intussusception from January 1900, to June, 1912. Intestinal obstruction (two due to acquired adhesions occurred in 6 cases. In two cases there was strangulation of the small intestine over the diverticulum, which was adherent to the umbilicus. In another case in which the diverticulum adhered to the umbilicus, secondary volvulus of the lower ileum, cecum and ascending colon occurred. In the remaining six cases there was evidence of inflammatory change in the diverticulum.

An attempt is made to show that speaking generally certain type of diverticulum is responsible for definite and specific lesion. A Meckel's diverticulum of unusual length (6 or 8 inches) in addition to causing intestinal obstruction may be inflamed or strangulated as the result of interference with its blood supply by a loop of implicated small intestine. Diverticulum adherent to the umbilicus may cause strangulation of the small intestine or produce secondary volvulus. The small cone-shaped diverticula become inverted into the bowel and produce intussusception.

The lesions are considered under three headings, viz., intussusception, inflammatory conditions and more rare forms such as enterocystis, calculi, etc., though not infrequently the pathological condition cannot be claimed under one of these headings. One case is recorded of an intestinal obstruction, gangrene of the Meckel's diverticulum and calculi.

In dealing with the differential diagnosis of the lesions produced by Meckel's diverticulum, appendicitis is stated to be the most frequent source of error. The reason that lesions of Meckel's diverticulum are confounded with appendicitis is that both organs are capable of undergoing the same pathological changes, e.g., peritonitis, obstruction, invagination, harboring of calculi, etc. Other lesions such as pathological conditions of the gall-bladder and intestine may be confounded with Meckelitis.

GASTRO-INTESTINAL TRACT

Borchgrevink Acute Dilatation of the Stomach and Its Treatment. *Surg. Gynec. & Obst.*, 913, xvi, 662.
By *Surg. Gynec. & Obst.*

The author reports five cases successfully treated by abdominal posture. H. Thompson gives a review of 37 cases published since Schnitzler's introduction of the postural treatment in 1895. Of thirty-one cases not treated or medically only twenty-nine died. Of 48 cases, treated by stomach tube, 14 recovered. Of 3 operated cases, 5 survived after gastro-jejunostomy after gastrotomy and 3 after their non-incised stomachs had been emptied during laparotomy. Of 16 cases treated by abdominal posture, 10 died, 6 from the gastric dilatation and one after the condition had been cured by the postural treatment. In 10 of the cured cases the abdominal position was little used and seemed to be without effect. In the other 6 cured cases, the abdominal posture more often in the presence of threatening symptoms, and partly, when longer treatment by the stomach tube had been without result, has brought about noticeable and often surprising effect. In three cases, which were laid on the right side, the effect was excellent. Lying on the left side did not have any decided effect.

Considering the etiology of acute gastric dilatation, Borchgrevink draws the following conclusions, which are based partly on the good results obtained by abdominal posture. The dilatation primarily occurs as a sequel to overloading of the stomach, either by excess in food or fluids, or by stagnation of the contents of the stomach and following gastric hypersecretion. 1. The dilated stomach produces the arterio-mesenteric occlusion of the duodenum as it compresses and empties the small intestine and, increasing in size, pushes it into the pelvis, thus tightening the root of the mesentery. 3. By abdominal posture the arterio-mesenteric compression is relieved and the stomach allowed to empty its contents into the bowel.

Heyrovsky Histological Examination of the Mucosa in Ulcer and Carcinoma of the Stomach. (Histologische Untersuchungen der Magenschleimhaut bei Ulcus ventriculi und Carcinom). *Deutsche Zeitschrift für Chirurgie*, 93, April, 199.
By *Zentralbl. f. d. ges. Chir. f. Grenzgeb.*

Detailed examinations in 20 cases have shown the following results. In more than half decided gastritis

was found. In gastric ulcer accompanied by gastritis no definite cause of the latter was made out. No change in the fundus glands, characteristic of hypersecretion and hyperacidity was demonstrated. The follicular erosions found commonly in ulcer probably are important in the formation of ulcer. The ulcer patients with gastritis after an anastomosis had more gastric disturbances than those without a gastritis. The staining technique and the literature on the subject are appended. *THIERMANN*

Grüber The Relations between Carcinoma and Peptic Ulcer on the Upper Digestive Tract (Beitrag zur Frage nach den Beziehungen zwischen Krebs und peptischem Geschwür im oberen Digestivtrakt). *Zeitschrift für Krebsforschung*, 93, April, 199.
By *Zentralbl. f. d. ges. Chir. f. Grenzgeb.*

The article contains the statistical investigations of the results of about ten thousand post-mortems in regard to the frequency of peptic ulcer of the esophagus, stomach, and duodenum on the one hand, and carcinoma of the other. Furthermore it gives a detailed description of the microscopical and macroscopical findings of several interesting cases, with thorough discussion. The author comes to the conclusion that the statistical findings at post-mortem show absolutely no point in favor of the contention that carcinoma develops particularly on the basis of peptic ulcer. The views of Payr and Kuttner based particularly upon surgical material are criticized as lacking convincing proof. The histological proof of the development of carcinoma on the basis of ulcer, according to the author, is found only rarely. The clinical as well as the anatomical methods of investigations cannot feasibly be employed, as correct statistical information is not available. *MARTIN*

Seldel The Perforated Gastric Ulcer (Über das perforierte Magengeschwür). *Zentralbl. f. Chirurgie*, 93, April, 199.
By *Zentralbl. f. d. ges. Chir. u. f. Grenzgeb.*

Seldel reports twenty-five cases of perforated gastric ulcers which were operated upon with a mortality of 35 per cent. It is most important to close the perforation perfectly and this is effected in the best way by placing auxiliary sutures parallel to the border of the perforation. On these auxiliary sutures the real closing sutures find secure hold. Gastro-enterostomy was as a rule not added (only in one case) and offers, when performed later on, much better prospect of good healing. *KRUMHOLTZ*

Palfrey The Administration of Ox Bile in the Treatment of Hyperacidity and of Gastric and Duodenal Ulcer. *Am. J. Med. Sci.*, 93, April, 199.
By *Surg., Gynec. & Obst.*

This report embodies the results of treatment of fifty cases of the most common form of dyspepsia characterized by sour stomach, heart burn, or pain after eating. A review of the physiology of the pylorus shows that the control of the pyloric

sphincter depends upon the degree of alkalinity and acidity in the duodenum. When the duodenal contents are alkaline the pylorus opens, when they are acid it closes. No degree of acidity on the gastric side can cause the pylorus to open.

According to Pilcher the acid contents of the duodenum are neutralized by the bile and pancreatic juice as well as by the duodenal secretion.

This action may be enhanced by the administration of ox bile per os.

The bile pills are prepared after the directions of Pfaff, each pill containing 0.55 gram of dried ox bile and coated with solid tincture and prevented from dissolving in the stomach. Two or three pills are given three times a day for a week the number is then reduced.

As the author states, this report is preliminary but the results obtained in fifty cases are worth reporting.

II A. Porta.

Mayo Palliative Operations for the Relief of Incurable Carcinoma of the Stomach. *St. Paul M. J.* 93 xv 269. By Surg. Gynec. & Obst.

A high percentage of individuals with cancer resectable when they present themselves for examination and only in certain percentages is palliative operation indicated. In performing palliative operation the surgeon assumes great responsibility. He must be quite sure that the palliation will be sufficient to repay the patient for the expense and suffering and for time spent in the hospital, and he should take into consideration that in the background is a well-lightened public opinion to be influenced by success or failure. Palliative operations are indicated for the relief of one or more of several conditions which may develop in the gastro-intestinal tract the most common of which is obstruction. A differential diagnosis cannot always be made between malignant and benign ulcerations unless specimens be removed for microscopic examination. Moreover when specimen is obtained for examination it may be taken from a point near but not actually part of the disease and thus give an incorrect version of the pathology. If specimen cannot be obtained, all diagnosis is made on clinical findings only the patient should be given the benefit of the doubt and the condition treated as though it were benign.

Twenty-two patients who recovered from palliative operation performed in the clinic for clinical or doubtful cancer of the stomach, and whose after-history was traced, lived more than one year. Fifty per cent lived from one to five years, the others died supposedly from malignant disease. Cancer the vicinity of the cardia producing obstruction occurs in about one per cent of the cases of gastric cancer. Gastrostomy is useful means of palliation in these cases and should not be delayed to the last resort. The Welch method of operation is ordinarily performed, but the Stamm-Rader technique is equally effective. A number 6 English catheter is used. Gastro-enterostomy is a

satisfactory palliative procedure in cases of inoperable malignant obstructions of the pylorus and for those cases having huge excavations in the posterior wall of the stomach which are usually carcinomatous but occasionally benign. If the tumor be large and more or less fixed, as it usually is in inoperable cases, anterior gastro-enterostomy after the Wölfer-Hartmann method gives excellent results. The posterior method is used for less extensive growths and in cases in which the clinical diagnosis between cancer and ulcer is questionable. J-junostomy is especially useful in cases of extensive involvement, but doubt as to the diagnosis exists. It is also useful in cases of accidental perforation of the ulcer. The gastric tumor should be removed even though all of the glands cannot be extirpated. It gives longer and more comfortable existence to the patient.

Clement Occlusion of the Stomach (Occlusion du stomac par un estomac bloqué). *Médecine mod.* 913 iv 243. By Journal de Chirurgie.

The man, 3 years old, entered the hospital with cough, breathing irregularly and vomiting greenish bile-stained liquid continuously. This condition had lasted fifteen days and began very suddenly. On examination the abdomen was found to be distended and tympanic, especially in the upper part. A solid immobile mass was palpated in the left hypochondrium which did not correspond to any organ.

On opening the abdomen, enormously distended stomach came into view. It was so distended that the wall was transparent. Examination disclosed a hollow stomach, the opening between the two parts being so narrow that fluid could not pass. A gastro-enterostomy as performed and an incision of the duodenum freed the patient and six hours later. At autopsy there were no signs of ulcer, cure or healed, or of new growth about the stomach.

The absence of scars made it seem that the constriction must have been either a congenital affair or due to very early ligation of some caecum. On account of the condition of the patient it was impossible to get history of any previous attacks. The author believes that the trouble of fifteen days duration must have been due to spasm from long standing hyperchlorhydria or from a lesion in the innervation of the stomach. Such cases are very rare and the diagnosis from intestinal obstruction high and hard to make. J. Debove.

Balfour Anterior Gastro-Enterostomy. *Ann. Surg. Phila.* 93 iv 903.

By Surg. Gynec. & Obst.

It is generally conceded that when gastro-enterostomy is indicated the posterior no-loop operation is safer, gives the best end-results, and that it carries practically no risk of unfortunate mechanical sequelae. The method has been so consistently satisfactory that it may have been used a times when other methods could have sufficed as well or

perhaps better. It is particularly applicable for benign lesions in the region of the pylorus when a resection of the pyloric end of the stomach is not indicated or a plastic operation is not possible.

For various reasons an anterior gastro-enterostomy is the operation of choice in certain definite groups of cases, the largest of which is composed of the obstructions of the pylorus due to carcinoma in which resection of the growth is not feasible. In many of these cases the mechanical obstruction with its retention of decomposed food products and the starvation is the important factor. Not only rethese patients are greatly relieved temporarily by drainage of the stomach but the terminal stages of the malignancy are much less pitiable. It is particularly in this type of case that the anterior method is preferable on account of the speed, safety and simplicity with which it can be performed. A smaller group is composed of certain benign lesions at or near the pylorus where posterior gastro-enterostomy could be desirable but not possible because of the presence of some mechanical condition. Extensive adhesions, congenital or inflammatory, small tumors, etc., may be sufficient to preclude the advisability of attempting the posterior method and yet permit the anterior operation to be done safely and quickly.

Goniliodd Simultaneous Resection of the Stomach and Transverse Colon. FI. Cases
(Résection simultanée de l'estomac et du colon transverse 5 observations.) *Lyon chir.* 9, 1, 1902, 475.
By Journal de Chirurgie.

The nearness of the colon to the stomach makes it possible for new growths of one organ to invade the other and so make resection of both necessary. Lerche has collected thirty such cases, with ten deaths. The author had but one operative fatality in his five cases. He removed the tumor of the stomach and colon in one mass and then made a gastro-duodenostomy and lateral anastomosis of the colon.

In one case there was myosarcoma of the stomach invading the meso-colon so that it could not be removed without destroying the blood supply of the colon. The tumor with parts of the stomach and 3 cm. of the colon was removed and the continuity of the gastro-intestinal canal brought about as described above. The patient died of pneumonia eight days later.

In the second case cancer of the stomach was resected with some of the colon, gastro-duodenostomy and lateral anastomosis of the colon performed. The patient died eleven months later of recurrence of the pleur and supradavicular lymph glands. In the third case 6 cm. of the stomach and 5 cm. of the transverse colon were resected for a benign gastric ulcer in a man 6 years old. The patient recovered and was in good health fifteen months later.

In the fourth case the cancer of the colon was resected and twenty months later it was necessary to resect 5 cm. of the pyloric part of the stomach

and 15 cm. of the intestine. The patient recovered and was in good health nine months later three years after the first operation. In second case a woman 55 years old who had had painful attacks for fifteen months cancer of the colon and stomach was resected en masse and the patient was in good health six years and three months after the operation.
CH. LACROIX.

Mömburg, Lacing and Closing of the Pylorus with Omentum (Umheftung und Verschluss des Pylorus durch Netz.) *Deutsche med. Wochenschr.* 29, 3, 1903, 606.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

In operating on his last two cases of duodenal ulcers Mömburg proceeded in the following way. He first closed the pylorus with silk ligature in the furrow thus formed he pulled a piece of the omentum behind the pylorus upwards placing it around the pylorus. He fastened this omental ring with two or three sutures.

One of the patients died five days after the operation from pneumonia and at the autopsy it was found that the mental ring closed the pylorus perfectly and tightly. Mömburg believes that the omentum alone will hold the pylorus closed after the silk thread ligature has been cut.
KOTZ.

Hasenel Duodenal Ulcer (Über das Ulcus duodeni.) *Zentralbl. f. Chir.* 9, 3, 1, 1902.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The author discusses the symptoms and diagnosis of duodenal ulcer. He believes that operation is indicated in the early stages of the duodenal ulcer when all internal therapeutic measures fail. Operation is further indicated in hemorrhages, symptoms of tenosis, and, above all, in perforation of the ulcer which is the most dangerous complication and occurs in about fifty per cent. of all cases. The direct method of operation consists in the excision of the duodenal ulcer, invagination and suture, but has the disadvantage that the cause of the evil, i.e., the influence of the gastric juice upon the duodenal wall, is not eliminated and new ulcers may form. According to the author the method of choice is the gastro-enterostomy retrocolica posterior with closure of the pylorus.

Hasenel has performed gastro-enterostomy nine times in twenty-six cases of duodenal ulcer during the last eight years (in five cases with closure of the pylorus). Twelve he excised the ulcer and in one case added gastro-enterostomy retrocolica posterior. In five cases of perforation the ulcer was sutured four times. Ten patients with perforated ulcer died.

HALL.

Berard and Martini Accidents and Technicalities of J-J. anastomosis (Accidents et technique de la jéjunostomie.) *Rev. de chir.* 9, 3, 1, 1903.

By Journal de Chirurgie.

The authors report the case of a man 50 years old suffering from diffuse cancer of the stomach with

reflex oesophageal dysphagia. A jejunostomy was performed according to the technique of Witzel-Elschberg. As the patient was normal for the first three days and the oesophageal spasm had ceased he was allowed fluids by mouth. On the fourth day the abdomen became tense and there were colicky pains but no vomiting; the patient became rapidly ill and died that evening. At autopsy a sharp kink was found in the jejunum and the jejunum and duodenum proximal to the jejunostomy were dilated. Liquids passed readily as soon as the mouth of the jejunostomy was freed.

The recurrence of this accident (jejunostomy) in omega (Albert and Mayo-Robson) is now practiced. They searched the literature and find the technique of jejunostomy much more closely fitted the following requirements: it must be simple and rapid; the patient is usually cachectic; the opening must be continuous and readily closable; finally there must be no danger of obstructing the intestine.

The method of Albert and Mayo-Robson with lateral or button anastomosis of Jejunum Lumiere appeared to be the best.

The authors advise local anesthesia preceded by the injection of scopolamine and morphine. A median or lateral oblique subumbilical incision is made and anastomosis about sutures using the Jejunum Lumiere button is performed. A lateral jejunostomy is then made in the middle of the loop according to Touta. J. OMERON.

Vigilant: Volvulus of the Cecum, Ascending Colon and Initial Portion of the Transverse Colon; Death from Intestinal Hemorrhage.
2. Volvulus of the P.I. Colon Treated by Simple Unwinding; Recurrence; Resection of the Affected Loop; Cure (Volvulus of Cecum d'origine du colon ascendant mort par entérotoxième. Volvulus d'colon pelvien traité par la dérotation simple récidive; mort après résection de l'anneau gauche). *Bull. et mem. Soc. de chir. de Paris*, 1933, 81, 95.

By Journal de Chirurgie

Viguer's first case was that of a soldier 5 years old, who was suddenly seized with violent pain above and to the right of the navel, accompanied by vomiting. Next morning the vomitus was brownish; the periumbilical pain remained in the same position; the abdomen was distended; the pulse was good and thread-like. Neither gases nor stool had been passed during the night. Immediate laparotomy 7 hours after the onset of the symptoms showed a volvulus of the cecum and whole ascending colon, which dragged with them the terminal portion of the small intestine and the hepatic flexure and initial portion of the transverse colon. The torsion was complete (360°) and clockwise. Unwinding and restoring the gut to its normal position led to partial emptying of the incarcerated gas and fecal matter but the patient died on the operating table.

At autopsy the mucosa from the duodeno-jejunal angle downward was studded with minute

hemorrhagic spots which became larger and more marked as one came nearer the large intestine, so that the terminal portion of the ileum the mucosa as it tensely congested, dark purple with black patches. These lesions stopped abruptly at the site of the torsion where the mucosa resumed its normal appearance. The cause of death was intestinal hemorrhage, the twisting of the mesenteric vessels having resulted in a huge hemorrhagic infarct in almost the whole of the gut.

In the second case that of a woman 4 years old, the first attack of volvulus of the pelvic colon was treated by laparotomy, puncture of the gut with a trocar and unwinding. The torsion was at least twice 360° and reversely clockwise. Recovery was uneventful, but 20 months later there was recurrence, less severe than the first attack. The torsion was only 180° and in the same direction as formerly. Reaction and end to end suture brought about cure.

The author's own opinion is concurred in by Lax, as, thinks that resection, preferably in the interval, or at the time of the operation for obstruction, if the general condition of the patient permits is the only radical treatment; unwinding leads to recurrence and anchoring of the loop yields only poor results.

HARTMAN quotes a case with multiple recurrences, finally cured by resection.

DELMONT has operated on 6 cases of volvulus of the large intestine one in a child 7 years old. Unwinding was immediately followed by an extremely copious evacuation, but death occurred in a few hours. The second, in a man 50 years old, was treated by unwinding and anchorage. The man recovered but could not be followed.

ROBERT once reduced a volvulus very easily but the gut was already markedly altered at the point of torsion and leakage caused death. Resection could have been the correct procedure in this case.

SOULROUX has recently treated a volvulus by simple unwinding; the general condition was such that nothing more could have been possible.

TORTIER has seen a case where, after multiple recurrences yielding to non-operative treatment, an artificial anus had to be made during more severe attack. The patient died in a few hours.

SAVARIAN has seen six cases of cat o' nine tails of the small intestine all ending fatally. He noted also a case of chronic volvulus of the large bowel in which simple unwinding brought about recovery but since the first attack, recurrences have since necessitated surgical interference. J. DEWEVER.

Kelllogg: Incompetency of the Ileocecal Valve; Disorders Arising from this Condition and Their Treatment. *Med. Rec.*, 1933, 103, 1760-1765. By Surg. Gynec. & Obst.

The study of the ileocecal valve and its disorders has been greatly neglected. The author studied sixty cases, and the most common symptoms are constipation, marked gastric pain, obstinate indi-

gestion flatulence etc. A large percentage showed evidence of pyeliditis, colitis mental and nervous depression.

The treatment is divided into the palliative and the operative. The former consists in securing at least three bowel movements daily and in hanging the intestinal flora by administering cultures of several varieties of bacteria (*B. bulgaricus*, *B. lacticus* and *B. glucobacter*). The increased bowel activity is obtained by bulky laxative diet with the addition of agar agar and paraffin oil if necessary gymnastics, outdoor life, coal bathing etc. all assist. The results have been most satisfactory and the operative procedure has been resorted to only when it is necessary to enter the abdomen for some other pathological condition.

The operation consists in restoring normal the partial intussusception of the small bowel into the caecum. This is easily done by pushing the small intestine into the caecum by short distance and fixing it by couple of sutures passed through the outer coats of the gut and it is often best to narrow the peritoneal between the lips of the incision by constricting the outer layers of the gut with suture. The competency of the suture is then tested.

J. H. KILG

Obst. Primary Typhilitis (Primary Typhilitis) *Reich*
Chirurg. J. 1900, 20
 By Zentralbl. f. d. ges. Chir. Göttingen

The caecum used to be looked upon as the seat of origin for all inflammatory processes occurring in the ileo-caecal region. At present there is a difference of opinion as to whether such condition primary typhilitis occurs at all. The author reports a case from the surgical clinic of the University of Budapest which is an undoubted example of typhilitis without pyeliditis. The patient was a young man who abstracts the ileo-caecal region. Operation revealed a large perforated ulcer the anterior wall of the caecum though the appendix perfectly normal. These observations are confirmed by microscopical examinations of sections of the ulcerated area as well as of the appendix. The possibility of specific disease, as typhoid or tuberculosis, were carefully excluded.

With this case and the observations of other authors the report has the author concludes that primary typhilitis certainly does occur. It hardly be differentiated however from the much more frequently occurring pyeliditis. The infection arises from the faecal contents of the bowel. Congenital and acquired changes of the caecum as to certain degree predisposing factors. DEWEES.

Sonnenburg, Pathology and Therapy of Perityphilitis (Pathologie und Therapie der Perityphilitis) Leipzig Vogel 93
 By Zentralbl. f. d. ges. Chir. u. k. Grenzgeb.

Sonnenburg's new book is thoroughly revised and all extraneous matter excluded. I regard it as appendicitis the entire treatment is concise and

thorough. Sonnenburg's personal note on the value of the blood picture with all its consequences is clear and concise. In this connection he states:

We possess to-day sufficient diagnostic aids to make diagnosis and render a prognosis and to differentiate the cases (especially in the early stage) to differentiate the mild from the severe cases. The proper interpretation of the blood picture is often the deciding factor for action, as it shows us the virulence of the infection and the involvement of the peritoneum in the individual case. Another place he continues: As long as in an acute attack of appendicitis the peritoneum is not involved and the inflammatory condition, usually catarrhal in nature, is confined to the lumen of the appendix, probably associated with an enteritis or colitis, so long as there is no reason to treat this condition differently from the way in which the same condition in other parts of the intestinal tract would be treated with laxatives.

VAN DER

Lendenholz and Olinczyk, The Sigmoido-
 sigmoidostomy (La rétro-sigmoidostomie en Y)
J. de chir. 93, 39 By Surg. G. nec. & Obst.

The authors present the following procedure as a more logical, technically simpler and a more efficacious method of short circuiting the large intestine for gross chronic obstruction or biliary

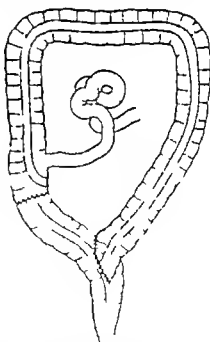


Fig. Showing result to be added. The Y is inserted due to the excessive length of the sigmoid segment. The section of the colon has been made too low and the two anastomoses are too close together.



Fig. 2. Approximation of the colon to the uterus. The uterine fundus has not yet been resected. The end of the sigmoid has been freed from the uterine vessels by using a Kocher clamp.

colitis. After various experiments an ecto-sigmoidostomy of the thoracically resected sigmoid was performed.

The patient is placed in the Trendelenburg position and a long median incision is made from the pubis to the umbilicus. The colon is rapidly explored for the linear lesions and the termination of the small intestine is respected for the only possible anastomosis in the operation, namely stenosing band resection.

4th Step. Like a normal sigmoid flexure, the length of the sigmoid is measured. This is equal to the length of the sigmoid. The operation is completed as usual as compared to mobile rectum. 5th Step. This consists of the approximation of the mesocolon and the lower part of the button-hole formed by the mesentery, the meso-parietal peritoneum and the posterior mesocolon. This is done following the same technique. Beginning at the right surface of the mesocolon, the suture runs from the sigmoid to the posterior parietal peritoneum. The meso-parietal peritoneum and the left surface of the mesentery have been removed. Care is taken to secure the blood vessels. The ends of the suture are held with a clamp and are not disturbed until the anastomosis is completed.

6th Step. Appendectomy is performed quickly as the appendix interferes with the anastomosis.

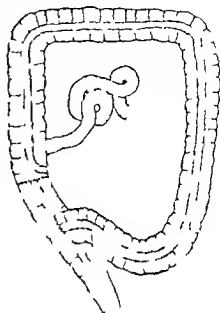


Fig. 3. Showing the correct result. Approximation of the sigmoid to the uterus. The end of the sigmoid has been freed from the uterine vessels by using a Kocher clamp.

4th Step. An intestinal clamp is placed above the bottom of the resected sigmoid. The end of the sigmoid is not resected.

5th Step. After making a Y-shaped incision, the sigmoid is cut high enough toward the colon to make the right ecto-sigmoid branch a little longer than the left colon sigmoid branch. The distance between the two anastomoses is too long, the Y will be inverted, which might lead to a vicious circle (Fig. 4). The clamp should include most of the depth of the mesocolon and the extremities should be in position.

6th Step. The iliac sigmoid is now cut between the clamps, the cut surfaces being cauterized. The mesocolon is cut at the end of the long clamp and immediately sewed over to control hemorrhage. The upper extremity of the uterine colon is trapped in a gauze and held stable.

7th Step. The inferior end of the sigmoid is placed in position. The rectum and the posterior part of the mesocolon are passed (Fig. 5).

8th Step. The anastomosis between the rectum and sigmoid is completed both mesocolon and sigmoid being at an angle just proximal to the sealing clamps before the sutures are passed.

9th Step. The compresses are removed from the superior end of the cut sigmoid. After choosing a point far enough from the rectal anastomosis and at the same time high enough so that the work can

be done outside the abdomen, the sigmoid-sigmoidostomy is done in the usual manner. This presents no particular difficulty as patient for whom this operation is indicated usually has a long sigmoid. 3rd Step. The suture as placed in step 1 is now tied just tight enough to close the opening in the mesentery and the operation is terminated by replacing the intestines and closing the abdomen. The result obtained is represented schematically by Fig. 3. (Lundberg)

Hefke: The Origin of Inflammations of the Appendix on the Basis of Bacteriological and Experimental Evidence (Über die Entstehung der Entzündungen am Blinddarmnähung als Bakteriophor und Spermatozoen (Zentralbl. f. d. ges. Chir. 1911, 40, 291).

In the course of inflammation of the appendix various processes bacterial and mechanical are usually present. The important questions are which process produced the inflammation in man and which. The presence of bacteria even in the first stages does not clear up the etiology. I rather believe, though the bacteria must be considered as the causal factors of the late inflammation mechanical factors are nevertheless contributory.

From animal experiments the author concludes that the adhesions restrict inflammation of the appendix, the secondary peritonitis, caused by the rupture of the sacculi, is formed by the retention of the contents in the appendix. The toxins rise on the one hand from the bacteria which themselves are not pathogenic and on the other hand by hanging the media which they grow. The destructive inflammation of the appendix therefore is not an infectious disease. This is further proven by the fact that bacteria are never found in the circulating blood and secondary metastatic bacteremia is never developed. All prophylactic measures must be based on the fact that the inflammation is due to toxic action. It is of importance not only to prevent the retention of substances but also to find out that which has been retained. Incompletely split pepsin is very dangerous. It may alter the appendix and the change from diarrhoea to constipation. (Lundberg)

Rjesnoff: Anatomical Consideration of Ligamentous Formations About the Proximal End of the Large Intestine (Ligamentum Variforme) (Zentralbl. f. d. ges. Chir. 1911, 40, 291).

By Zentralbl. f. d. ges. Chir. 1 Grenzgeb.

This article represents an extensive anatomical study — an original investigation on many cadavers. It was the author's purpose to study the normal conditions of these membranous formations and therefore only those cadavers were selected which presented about the normal abdominal findings. Ninety-three bodies were studied. Five distinct

types are described according to the manner in which the peritoneal membranes are disposed.

When they are extensive they envelop the gall bladder and cover the ascending colon as far as the caecum. In these cases the membrane appears much like a continuation of the small omentum. The ligament covers the ascending colon, the caecum and possibly the appendix. 3. There are cases in which the peritoneal folds affect only the caecal region the appendix being frequently attached to the caecal wall.

4. Rarely does in which the ligamentous folds begin in the right abdominal wall, extend across the ascending and ascending colon and blend with the great omentum. These formations are described also as ligamenta caeco-parietale and ligamenta mesenterica parietale. 5. To the last group belong those cases in which the floor of the caecum is fixed in an unusual position. Many of the above classified peritoneal folds have been previously described under various names, for example ligamentum mesentericum-pylorocolicum (Howell) and ligamentum caeco-rectum (Sutton) in 53 per cent.

All individuals present any of these conditions. Several other peculiarities can be detected in the abdomen. The description of these conditions another chapter of the article. The great omentum shows a normally large development. The descending colon is often under-developed. The sigmoid is usually fixed in the left iliac fossa. The mesentery of the small intestine is unusually small at its attachment. The course of the mesenteric vessels also is peculiar. The results of these investigations are tabulated and illustrated by thirty diagrams. The peculiarities in the development of the bowel are also discussed.

After quoting the literature extensively and going into the subject in detail the author concludes that there is close connection between the embryonic development of the gut and the later development of the peritoneal folds or membranes. His opinion is supported by personal observations on fourteen embryos between the ages of one and five months. The most cases of varying peritoneal folds are discussed in detail and illustrated. In conclusion the author points out that membranous developments about the proximal end of the large gut are not looked upon as the result of inflammatory processes, as surgeons frequently assert but that they have their origin in the anatomical structures which have developmental history of their own. Since these structures possess an embryological development of their own and can therefore vary widely the author has proposed the name ligamentum variforme. (Schwartz)

Goldthwait: Orthopedic Principles in the Treatment of Abdominal Visceroperitoneals and Chronic Intestinal Stenosis. Surg., Gynec. & Obst. 9, 3, 371, 387.

By Surg., Gynec. & Obst.

The work of the orthopedist in these cases consists in the modelling of the body so that the common

3. Characteristic appearances of the gas cysts and cyst walls, in which an endothelial lining and giant cells are a feature.

4. Occurrence of spaces or channels, some of which may be lymphatics partly lined by endothelium and partly filled with giant cells, endothelioid cells and leucocytes.

5. Evidence of dilatation of lymphatics and of the inter-communication of large lymphatic spaces, possibly cyst spaces, with undoubted lymph channels.

6. Absence of communication between cysts.

7. Inflammatory and productive processes between the cysts and under the peritoneum resulting in the formation of connective tissue and fibrous masses, leading to the obliteration of certain cysts and therefore to a kind of healing process.

8. Absence of bacteria in most of the cysts.

9. The deposition of highly refractive needles in the interior of many cysts, causing peculiar flattening of the cells, of the lining membrane and the possible role of such crystalline matter in the production of some of the giant cells.

Thus Turner concludes from the reported cases and from a study of his own that the condition is self-limited with a tendency to spontaneous cure.

HA. FR. B. MITCHELL

Brown: The Value of Complete Physiological Rest of the Large Bowel in the Treatment of Certain Ulcerative and Obstructive Lesions of This Organ, with Description of Operative Technique and Report of Cases. *Surg. Gynec. & Obst.*, 9, 3, xvi, 6. By Henry C. Brown, & Ostr.

Brown points out in his paper the two stages of complete physiological rest of the entire large bowel in the treatment of certain diseases of this organ which have heretofore been treated by various surgical methods. He describes a technique by which this rest can be accomplished, and how when its purpose is fulfilled, the bowel can be put back into commission in a manner both safe and satisfactory. The type of cases in which the author has found this surgical rest treatment of value are enumerated as follows: (1) Mucous colitis associated with obstructive lesions; (2) ulcerative colitis (morbidity bacillary, tuberculous, etc.) and (3) obstructions to the colon, acute and chronic due to neoplasms.

In mucous colitis Brown's technique seems better to meet the indications than Lane's operation, or the Wetz Mitchell treatment, etc. By it all pericolic bands and adhesions can be severed, the cecum elevated from the pelvis and the intestinal stasis immediately relieved. The entire colon can be put at rest and during this process of complete physiological quiet, the patient can be given the benefits which follow dietetic, hygienic and orthopedic treatment. In this way the bowel can be given a chance to regain its normal tone.

Technique: Through right rectus incision sufficiently long for general exploratory purposes, the abdomen is opened. The cecum is first once

sought and the entire large bowel is carefully examined. All pericolic adhesions are severed, the appendix removed and the stump buried. The ileum is next severed between two clamps, close to the ileocecal valve. The distal ileum is tied off and buried as was the appendix. At a suitable part of the cecum a purse-string suture of linen is placed and the cecum is next incised. Through this incision, a large catheter is inserted after which the purse-string is tightly tied. A second purse-string of No. 2 chromic catgut is next placed. Under the loops of this purse-string, three long catgut fixation sutures are placed. A stab wound is next made at McBurney's point and the catheter and fixation sutures are pulled through. The peritoneal surfaces of the cecum surrounding the catheter are next scarified. The catheter is now slipped through the butt and the fixation sutures threaded through the eyes and tightly tied, thus closely approximating the serous surfaces of the cecum to the parietal peritoneum. A stiff rubber drainage tube is next inserted into the proximal ileum, fixed with a double purse-string suture and brought out of the lower angle of the rectus incision. The parietal peritoneum is made to hug it snugly by a few catgut sutures and the abdominal wound is closed in the usual way.

The indications for restoring the continuity of the large bowel are: (1) improvement of the patient's general condition and the return to normal, as shown after repeated chemical, microscopic and culture growth examination of irrigation fluids passed. This restoration should not be made too early, particularly in the ulcerative lesions of the colon. To put the organ back into commission, restoration is readily accomplished by simply cutting out the tube and closing the distal ileum with a purse-string suture. A lateral anastomosis of the ileum to the ascending colon may be performed or the ileum sutured into the sigmoid (Lane). The author has never found a difficulty in restoring the continuity of the intestine.

The author bases his paper upon ten cases so operated. Two were cases of chronic intestinal stasis with obstructions due to pericolic bands and flexures, both are greatly improved and now comparatively well. Three were operations for amoebic dysentery, all cases were cured. One ulcerative colitis with extensive involvement of the sigmoid and rectum, patient now in good health. One case of extensive obstructive tuberculous colitis, patient received great relief and lived in comfort for two months. Three were late and inoperable malignancies, one lived six months, one five months. The third is still living, nine months after operation and is comfortable and in reasonably good health.

Rosenheim: Colitis Chronica Gravis (Über Colitis chronica gravis). *Deutsche med. Wochenschr.* 9, 3, xxix, 636.

By Zentralbl. f. d. ges. Chir. I. Grenzgeb.

The difference between colitis gravis and simplex is only one of degree. In all cases definite inflam-

matory condition of the mucous membrane exists, followed usually by erosions and tumor-like formation. Fistulae and abscesses may develop as secondary complications. Somnolence, colic, endocarditis, multiple neuritis, etc. are due to a general intoxication. A specific symptom complex does not exist. The prognosis is always doubtful. Rosenheim observed three deaths (peritonitis, sepsis and general cachexia) in his series of fifteen cases.

Rest, bed, bland diet, opium, tannin bolus, blanchet frequently accomplish much therapeutically. A local treatment of the colon is impossible in many cases on account of the sensitivity. The insufflation treatment is of no value. Irrigations with boric acid and tannic acid are of value in mild cases only. Enemas of starch, gelatin and gum arabic appear to be of more value. Surgical treatment should then be considered only when internal therapy has proved futile but under certain conditions it may be of saving procedure. Special indications for surgical intervention are protracted fever, protracted constipation, marked discharge of pus in the feces and local or general complications.

W. ROSENHEIM

Graham Report of Case of Focal Tumor Associated with Ulceropurulent Disease of the Colon.
Am. J. Surg. 9, 3, 1914.

B. S. G. Graham, & O. B. S.

Graham reports a case of focal tumor of the colon which is that of a young Frenchman, aged twenty-seven, who had undergone three abdominal operations. Present illness dates from birth. Not unusual to go a week or ten days without stool and then evacuation as produced only by means of enemas.

At the age of 9 she operated upon and large focal tumor was removed from the sigmoid. At the age of 15, she suffered another attack of complete intestinal obstruction. She was operated upon again and this time large focal tumor was removed.

In August 1914 for the third time she presented symptoms of complete intestinal obstruction for seven days. Abdomen enlarged and general tympanitis except the lower right quadrant, where there was dullness corresponding to large tumor which could be readily palpated. The tumor (focal mass) as exceedingly hard and did not put pressure. It could be easily moved in every direction through the abdomen. Attacks of violent colicky pains were frequent. Vomiting was persistent. Pulse 80, temperature 101°F. He requested that the focal tumor be removed but refused to give her consent to short-circuiting or resection of the bowel.

At operation the tumor was found in sigmoid. Its greatest circumference was 9½ inches. Its weight was 64 ounces. The dilatation which was confined to the sigmoid was very marked, the greatest circumference being 20 inches. Patient made an uneventful recovery and was discharged from the

hospital on the tenth day. She gained in weight, and appeared to be in the best of health. She experienced no difficulty in procuring daily evacuations with the aid of small doses of cascara. On December 15, 1914 she was doing nicely. Information was received later that she was operated upon April 1915, and died three days after.

Von Beck: Last Condition after Excision of the Colon by Means of Ileocolostomy. (Spit. runde nach Dickdarmresektion durch Ileocolostomie zwischen Ileum und Flava sigmoides Ileocolostomie). Ber. u. Klin. Chir. 9, 3, 1914, 335. By Zentralbl. f. d. ges. Chir. 1, 1914, 335.

Von Beck reports his results in fifty-four cases of colon exclusion by means of ileocolostomy performed for chronic ulcerous colitis (26) chronic peritonitis and displacement (6) extensive tuberculosis of the bowel (1) and for inoperable colon carcinoma (1). Three cases died during the first four weeks after the operation (peritonitis, pneumonia, thrombosis). In the remaining forty-one cases good functional anastomosis resulted, no bad effects followed the short circuiting. The length of life of the cancerous patient after operation was four to eleven months. Excellent end results were obtained in the tuberculous cases, even in extensive involvement of the lower ileum, caecum and colon.

These cases were operated in two stages. In the first the diseased area was extirpated, the ascending colon tied off and the ileum as anchored anteriorly to the abdominal wall. After four to six weeks the ileum was sutured to the sigmoid and the tuberculous ascending and transverse colon were then excluded. Result: One death, three years after operation, from tuberculous infection of the bowel, the colon, however being normal. Two deaths six and eight years respectively after operation of pulmonary phthisis, colon entirely normal. Of the remaining seven cases six are still able to perform their daily duties (four to ten years after operation). Of the thirty-one cases operated for colitis, peritonitis and displacement all cases returned in from one to five years complaining of gradually increasing obstruction, relative obstruction or retrograde peristalsis. All were cured. In three of the cases an appendectomy had been performed and irrigation treatment employed ineffectively. In three cases secondary operation as necessary on account of retrograde peristalsis, sacculi, dilatation of the rectum, focal stenosis in the middle of the transverse colon and stricture in the ileum and jejunum. In these cases the author recommends the exclusion of the colon by means of ileocolostomy with invagination of the distal end of the ileum into the caecum. In cases of spasm and retrograde peristalsis—pericula to the female sex—he advises making an end to end anastomosis between the ileum and sigmoid and anchoring the upper end of the sigmoid outside as a mucous fistula or extirpating the colon at later date.

B. ZIMMER

Libensky: The Initial Stages of Atypical Neoformations in the Rectum and the Sigmoid Flexure (Die ersten Anfänge der atypischen Neubildung im Rectum und im S. sigmoideum). *Zschr. f. klin. Med.* 93, LVIII, 355.
By Zentralbl. f. d. ges. Chir. Grenzgeb.

The author has observed two cases of ecurrent adenoma of the sigmoid flexure and their metaphysical into atypical new growths. He reports a number of similar cases from literature and emphasizes the importance of rectoscopy on account of the uncertainty of the symptoms. Eight atypical cases are reported from the author's own observations and he points out that the condition of the pedicle of the adenomatous polyp is of special prognostic importance. Only polyps with thin pedicles may be considered benign. Broad pedunculated polyps necessitate the extirpation of the entire base of insertion to prevent recurrence. *Heiler.*

Beerms and Heilmann Treatment of Amoebic Dysentery with Emetin (Die Behandlung der Amoebendysenterie mit Emetin). *München. med. Wschr.* 93, 14.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The authors experimenting with emetin from different manufacturers furnishing samples of varying strength found that the drug was very effective for amoebae. When injected buccally or better still, intravenously, most of the organisms — and in especially of virulent cases all of them — in the intestinal wall and in the ulcerated areas were killed. After 10-7 days few organisms may again be found. There are however strains of amoebae which evidently withstand the effect of emetin. Cysts do not seem to be directly affected by it though its early use will possibly intercept their formation. With the use of emetin even in the severest cases prompt healing takes place in the ulcerated areas of the bowel.

The maximum intravenous dose is 50 mg per 60 kg. body weight. The best results were obtained by the following method: Intravenous injections with 0.05 cc. physiological NaCl solution, or the subcutaneous injection of 50-300 mg followed after 8-10 days and at intervals of 2-3 days, according to the condition of the stools, by 4-5 subcutaneous injections of 50-70 mg. Where necessary a similar course of treatment may be repeatedly given at intervals of 3-4 weeks. *Voss.*

Proust: Rectal Prolapse Treated by Coloproxy and Perianal Wiring; on the Coexistence of Rectal and Genital Prolapse; on Hysterocoloproxy (Prolapsus de rectum traité par la coloproxy et le cerclage de l'anus de l'association des prolapsus rectal et génital de l'hystéro-coloproxy). *Bull. et mon. Soc. de chir. de Par.* 93, xxxix, 657.
By Journal de Chirurgie.

Proust patient, a woman 48 years old, whose prolapse dated back 8 years, had previously had a supra vaginal hysterectomy. Laparotomy showed very deep Douglas pouch which was bilaterated. The

sigmoid loop was anchored, above the uterine stump to the remnants of the round ligaments and to the peritoneal covering of the bladder. Two months later a perianal wiring was made to correct a tendency to eversion of the anal mucosa. A year after the operation, there is slight abdominal eventration the prolapse remains cured the silver wire is still unbroken.

Quénou commenting on this report, points out the influence hysterectomy may have on the development of rectal prolapse. The uterus and rectum have common means of suspension therefore, any cause bringing about the fall of one endangers the fixity of the other. Hysterectomy deprives the rectum of the anterior support afforded it normally by the uterus. The weakening of the pelvic floor favors the prolapse of both organs. Hence the not infrequent association of rectal and genital prolapse and the wisdom of anchoring both the rectum and uterus when coloproxy is resorted to. In a case of large prolapse, Quénou first sutured the vaginal vault to the rectum next he stitched the upper edges of the broad ligaments to the posterior peritoneum on each side of the gut and finally laid the sigmoid loop crosswise and anchored up to the left iliac fossa. Here a small slit was made in the posterior peritoneum. The tendon of the lesser psoas muscle was bared and the bowel stitched to it. The uterus, from the cervix to the fundus, was also sutured to the anterior abdominal wall. In younger women this total hysterectomy would be replaced by shortening of the round ligaments.

Lenormant states that the association of rectal and genital prolapse though not uncommon, is far from constant. The giving way of the pelvic floor which undoubtedly is a potent predisposing cause must, however be added an abnormal length and mobility of the pelvic colon. This explains why while genital prolapse is so common in women, rectal prolapse is almost as rare in females as in males, and also why in large rectal prolapse, coloproxy is a necessary adjunct to perineorrhaphy.

Lenormant always uses the Quénou Duval technique for coloproxy oftentimes supplementing it with Thiersch perianal wiring. The latter operation alone is an excellent palliative procedure in cases in which major operation is contra-indicated. It is sometimes sufficient in children. Lenormant has performed coloproxy 9 times for large prolapses. Out of 5 cases that could be followed, had rapid recurrences, 3 are cured after 4½, 7 and 8 years.

MAUCLAIR has performed three coloproxies after hysterectomy or colpoperineorrhaphy. He had one operative death one case could not be followed the third is perfectly well 18 months after the operation.

J. Dumas.

MacLaren: Rectal Section for Pelvic Abscess in Men *J. Lancet*, 93, xxxix, 54.
By Surg. Gynec. & Obst.

The author opens the paper with a report of a case. A boy 1 year old, was brought to the

hospital three days after the onset of pyelitis. The appendix had ruptured. He was immediately operated and much pus was found in the abdomen. Two drains were inserted, one to the bottom of the pelvis and the other to the base of the appendix. He did not improve very much following the operation. On the tenth day following the abdominal section he was very sick having proctitis, drawn face and rigid much distended abdomen. His operative wound was discharging considerable pus. He complained of great deal of pain. His anus was widely open, the anterior wall bulging and the peritoneal cul-de-sac was distended to its utmost by a collection of pus which filled the pelvis. The sac was opened with a sharp pointed scissors using them as dilator. At least a quart of serous pus came away first followed by thick, foul colon pus. A winged rubber tube was inserted. His improvement was very rapid.

The kind of the uterine rectal section for the drainage of pus in the pelvis has proven a life-saving measure. The results are immediate and brilliant. As the operation is so simple it is hard to understand why there is so much prejudice by so many surgeons against doing it. A second abdominal operation in these cases is so frequently followed by death that the uterine or better test performs it and does rectal section instead. Since the institution of the method the mortality rate has been considerably reduced. This method of treatment is especially adaptable to those cases of appendicitis with abscess formation which occur in young children. It may be used as preliminary operation in those cases which render the surgeon exhausted and very septic and with large abscesses in the pelvis. After opening the rectum the patient does not immediately improve; the abdomen should be opened.

Edw. L. COCHRAN.

Deloite. A topology with Flaps of the Anal Fistula (De l'astoplogie avec des flaps dans la fistule anale). *Bull. et mem. Soc. de chir. de Par.* 93, 1912, 221, 220. By Journal de Chirurgie.

In extra-sphincteric anal fistula, non-tuberculous, incision or even extirpation of the fistula is insufficient because the perirectal fat has disappeared and the cavity does not fill up. On the other hand, any method dividing the sphincter would result almost with certainty in fecal incontinence.

In such a case the writer dissected and extirpated the fistulous tract. The bottom of the wound was bounded by the left side of the rectum. Six months later the cavity was still 3 1/2 inches deep and wide enough to admit pencil. Then cutaneous flap was cut from the left thigh, the subcutaneous fat being carefully preserved the pedicle as rotated so as to bring the flap in the wound created by the freed edges of the cavity. The skin was sutured to the skin, while the fat cut it fill the perirectal gap. The result was all that could be desired.

J. DOWSET.

Barnes. A Method of Operation on Fistula without Cutting Muscular Tissue. *J. Am. Pract. Soc.* 93, June. By Surg. Gynec. & Obst.

This method is used in those cases of fistula which involve the sphincter muscles. An incision is made external to the sphincter similar to that made when incising an ischio-rectal abscess. Through this opening the scar tissue is dissected out to the internal opening. An incision is then made at the skin margin, so that the middle of this incision passes through an imaginary longitudinal line drawn from the internal opening. A subcutaneous dissection is then channelled out up to the internal opening. Good drainage is kept in this until the external wound is healed sufficiently. Then the subcutaneous tract which remains, is incised under local anesthesia. No muscular tissue having been cut the function of the sphincter is preserved intact.

Zabel. A Further Consideration of Sir Charles Ball's Operation for Internal Hemorrhoids. *J. Am. Pract. Soc.* 93, June.

By Surg. Gynec. & Obst.

In every instance in which the essentials of Ball's technique have been followed out carefully the author's results have been exceedingly satisfactory.

After trial of this operation, the author sums up his conclusions as to its value as follows: That as modification of the old ligature operation it is better than the latter and at the same time is far superior to the lamp and cautery operation, in that it takes care (and avoids the recurrence of that revolting anal skin tag which generally becomes markedly odorous immediately after these operations, leaving behind skin tags after the swelling subsides.

Murray. Further Observation on Peritonsillar Abscess: Its Probable Etiologic Factors; Results of Treatment. *J. Am. Pract. Soc.* 93, June.

By Surg. Gynec. & Obst.

Murray finds no reason for materially modifying his former reports, but has gathered data which has helped to prove the correctness of his previous work. He found streptococcal infection in three cases of peritonsillar abscess and valve in four cases in which the abscess and the abscess were involved. These complicated cases, with the exception of the valve cases, improved by the use of the vaccine treatment.

In the past year Murray has increased his former series of thirty-two cases, by twenty-five in five of which streptococcal infection was not found. These cases showed other infections, which still further proves the contagious nature of peritonsillar abscess and demonstrates also that other bacteria the streptococci may bear causal relationship, as was hinted in the author's first paper on this subject. His cases, so far as he has been able to determine have not been affected by diet. Since he discovered the infection in peritonsillar abscess he has never changed the diet of any patient, neither has he restricted them in the smoking or drinking habits. The improvement

under the vaccine treatment, without regard to eating, drinking, or smoking, gives him additional proof for the bacterial theory.

During the past year Murray has carefully investigated the itching to discover whether it extends into the anal canal beyond Hilton's white line. He found that only in one instance did it extend beyond that point, and then only for a short distance. His investigations have given him additional proof that pruritus is not caused by any local lesion within the anal canal, and that when such lesions exist with pruritus and they are coincidental, the cases operated for local lesions, the pruritus is has not been permanently improved as a result of the operative procedure.

Murray states that rectal and general surgeons have observed many cases of fistula with discharges upon the anal skin, not accompanied by pruritus and the same is true of hemorrhoids, constipation, and other rectal lesions, pruritus occurring in only a small proportion of such cases. Murray, therefore, still holds that where pruritus exists in connection with other lesions it is coincident. In his report he gave a summary of one hundred consecutive rectal cases wherein this fact was established fairly well.

He also refers to the opsonic index, or more properly the coefficient of extinction of opsonins, and claims that much valuable information can be gained by this test. His work shows that if a complicating infection exists and other bacteria than streptococci are found to be the sole invading organisms, we must use the corresponding autogenous vaccine. The opsonic index, following bacterial diagnosis, is the proper method for determining this.

The results of treatment and the history of patients prove to him that if pruritus exists with local lesions, in which demand operation, the prognosis depends upon whether skin infection is present or not. If the skin infection is present the local lesions may be cured by the operation, but the patient should not be led to believe that the pruritus will also be cured by it. Per contra, if skin infection does not exist with local lesions and itching, the prognosis may be that it is very probable that the itching will cease with the cure of the local lesions.

After personal investigation in treating, watching results, noting how cause, effect and results dovetail together, comparing these investigations with statements and theories made in textbooks, and in articles appearing from time to time in medical journals, containing no definite pathology or scientific reasons for cause and effect, Murray cannot understand how the profession will uphold such theories in preference to the bacterial theory which has been so well proven in his own cases and confirmed by other workers.

The uniformity of the bacteriological findings is strong support for the bacterial theory of the etiology of pruritus anal. The chronicity of all the cases, the uniformity of symptoms, the similarity of

the conditions of the skin, the locality, the regularity as to the time of attacks, the uniformity of itching, the outfold of Hilton's white line, the uniformity of the blood findings as to the coefficient of extinction of opsonins, and the fact that all local applications which have given beneficial results in the past have contained a strong germicide,—all point directly to a common cause. Further confirmation is found in the uniformly good results of treatment with autogenous vaccine of the variety of bacteria against which the patient has low phagocytic power and in the lack of good results by the various haphazard methods of treatment in general vogue.

Endo medium is used to plate the cultures. The vaccine employed is of the strength of one billion to the cc., beginning with two minims, or one hundred and thirty millions.

Murray's references to fissures in previous papers having been misunderstood by some, he desires to state that he had referred only to fissure-like cracks of the skin and not to anal fissures or ulcers.

LIVER, PANCREAS, AND SPLEEN

Opokin and Schlamoff. Hemostatic Effect of Acid Thrombin in Injuries of the Liver. (Zur Frage der blutstillenden Wirkung der Thrombin bei Leberverletzungen.) *Arch. f. d. chir. Wiss. d. Prof. J. Fedoroff*, d. milit. med. Akad., St. Petersburg, 9, 3, 1910. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

In the past few years the efforts at hemostasis in injuries of the liver have tended toward a new direction. An attempt is being made to stop the hemorrhage by covering the surface of the liver with living tissue by plastic operation. This class of work belongs to the unsuccessful experiments and clinical observations on transplantations of the omentum (Loewy, Bolkanski, Hesse), the more recent attempts of fascioplasty (Kirschner, David).

And lastly the efforts of Lawen to cover the bleeding surface with muscle tissue. These experiments were performed only on rabbits, and give rise to the following queries: 1. Has the muscle tissue hemostatic properties, does it simply act as a mechanical tampon? 2. To what extent can plastic work with muscles be employed? 3. Hemorrhages from parenchymatous organs? 4. How is the hemostatic influence of muscle tissue to be explained?

To answer these questions the authors performed experiments on dogs. The muscles used were the rectus, or preferably the gluteus maximus. The muscle tissue was divided into thin slices, and preserved in arm salt solution until the wound in the liver was produced. It was made as large as possible without removing much liver tissue. The areas varied in size with that of the dogs, from 4.5 to 3.5 cm. Bleeding was profuse, but was rapidly checked by the implantation of the muscular flap, and finally stopped entirely. The fixation sutures had little to do with checking the hemorrhage, but the muscular flap does act to some extent as a tampon. Twelve dogs were used for the

tests. Four died of peritonitis in from 1 to five days, two of pneumonia after one and three weeks. The rest were killed at varying intervals, three months being the longest period of observation. Microscopic examination in the early cases showed round cell infiltration. The transplanted muscle and in the later ones connective tissue change. In three cases the flap became necrotic and sloughed out. Secondary hemorrhage did not occur.

The best part of the paper is devoted to discussion of the thrombokinetic action of muscles. According to Loeb (1904) muscle extract possesses exceptionally strong blood-clotting qualities. T satyhi himself is on this point the authors experimented with extracts of the muscle lung and liver of a rabbit test of the thrombokinetic action.

Into The technique followed was that of Prof. S. S. S. The results showed that lung extract possessed the strongest blood-clotting properties and that of muscle alone the second. Liver extract possesses but slight clotting power.

After further theoretical discussion the authors conclude that the transplantation of muscle tissue into wounds of the liver for hemostatic purposes deserves increased attention, especially from biologists and surgeons.

Norris Solitary Cyst of the Liver. (Am Surg. Feb. 9, 1914, 805) By Song Grace & O'Connell.

Norris states that true solitary cysts of the liver of non-parasitic origin are rare lesions as compared with other conditions found in the liver. That cysts are reported as such has been congenitally dilated gallbladders or ducts, cystadenomas, or true cysts. In the first two cases the cyst wall is of the same nature and true angle. These cysts may be intra or extra-hepatic and of any size. In the third case the cyst wall is of the same nature and they occur more frequently in the outer surface of the right lobe of the liver. They are more common in the female and late middle life. The causation of these cysts may be summed up as follows:

1. Congenital degeneration or occlusion of biliary ducts.

2. Degenerated gallbladder in liver. These are usually small.

3. Cystic changes in an adenoma of the bile ducts, usually large.

4. In the case Norris reports, of a possible cause.

Monchowitz, in 1906, said that these cysts are associated with congenital anomalies in other parts of the body especially cysts of the kidney. That this is not accurate has been proven by the fact that they have been found unassociated with other anomalies.

Certain definite changes take place in the cysts of long standing such as calcareous infiltration, numerous blood vessels and they are usually surrounded by a firm fibrous capsule, the inner surface is smooth often ridged and of an opaque white color. The places the wall may be so thinned as not to show the characteristic appearance. The con-

tents vary. Usually colorless fluid fills the cavity although there may be bile or blood-tinged fluid. Albumin is present. In some cases bile pigment, blood, hematoidin, cholesterol and tyrosin have been found. Microscopically the capsule is composed of laminated fibrous tissue which may contain bile ducts sometimes dilated. Occasionally blood pigment is found between the bundles of fibrous tissue. The fibrous tissue invades the liver tissue for short distance and is lined internally with a layer of epithelial cells, which may be columnar or polyhedral in the small cysts.

As these cysts do not give symptoms until they are of sufficient size to cause pressure they are usually diagnosed post mortem. They may be mistaken for distended gall bladder cystic liver echinococcal cyst, gumma or cyst of some neighboring organ.

The operative results have been satisfactory and the procedure should be as radical as is consistently safe. If operation can be done without severe hemorrhage this is the best method. If there are very firm attachments or other contra-indications to excision, the best is to cut the cyst off to the parietal peritoneum and drain. Simple puncture is not recommended. In the case reported, Norris evacuated a cyst the size of an orange containing 300 cc. of clear fluid, sutured the cyst wall to the parietal peritoneum and drained it. It closed and the abdomen was normal. The drainage tract closed in four weeks.

Max B. Matthews.

Cholelithiasis and Cholecystitis During Childhood and Its Treatment. (Cholelithiasis and Cholecystitis in Childhood and Their Treatment) Zentgraf (J. d. Grenzgeb. d. Med. Chir. 8, 1914, 315).

In Zentralbl. f. d. spec. Chir. 1 Grenzgeb.

The occurrence of gall stones during childhood is rare. The author has collected only fifteen cases. Of these are autopsy findings and only one clinical observation. The new-born and suckling. There are 5 years old new-born and 4 years old. The stones are described as polyhedral or oval cholesterol masses. Those in infants weighed up to 1 g. Those in older children are the size of pea and over.

It cannot be stated whether the female sex also is predisposed during childhood. The four cases over 3 years were all girls. The clinical phenomena are practically the same as in the adult. The diagnosis is the same as in the adult. The treatment is the same as in the adult. It is confirmed only by finding the stones in the liver as far as possible in several cases. The treatment is based on the same principles as in the adult. Pure cholecystitis without stones is still much rarer. Case report and literature are appended.

Unger Eckert.

Bachy Cholecystectomy to Cholelithiasis; Indications and Results (De la cholecystectomie dans la lithase vésiculaire: indications et résultats). *Thèse de doc.* Par 93. By Journal de Chirurgie.

The author basing his conclusions on 80 cases of Lejars Cosset and Desmarest believes cholecystectomy the only sure cure for cholelithiasis. Medical treatment is unsatisfactory as it can be followed by more severe attacks, occlusion of the bile passages, intestinal or pyloric obstruction, peritonitis, biliary cirrhosis or cancerous degeneration.

Removal of the gall-bladder is made justifiable in the first place by the conditions of the paravascular organs acute or subacute cholecystitis with pus abscess and chronic sclerosed hydrops of the gall-bladder are all indications. A functional disturbance follows its removal. After cholecystectomy recurrences are frequent and further operation is made difficult by the adhesions formed about the gall-bladder. I cute, acute suppurative and chronic cholecystitis and in hydrops of the bladder simple cholecystectomy gives excellent results. When the gall bladder trouble is complicated by adhesions to the intestinal tract or dilatation of the bladder giving symptoms of obstruction it may be necessary to do a gastro-enterostomy as well as a cholecystectomy. When there is chronic pancreatitis, which is very hard to differentiate from gall bladder disease alone, drainage of the common duct may be necessary in addition to removal of the bladder but four such cases have cleared up without drainage.

Bachy divides either anesthesia after injection of patipon, Spengel incision, cholecystectomy according to the Cosset and Desmarest method and also drainage by gauze from the cut end of the cystic duct. One cholecystectomy was done for acute cholecystitis, 46 for chronic cholelithiasis, 7 for cholecystitis with pericholecystitis, one recurrence after cholecystectomy, 4 for fistula, 8 combined with appendectomy or gastro-enterostomy for cholecystitis with digestive troubles, 6 for hydrops of the gall-bladder with stone in the cystic duct, and 4 for cholecysto-pancreatitis.

The mortality was 5 per cent. One patient died after seven months of generalised carcinoma, primarily in the gall-bladder, another died after two years of carcinoma of the liver. There were three passing recurrences. The four cases of pancreatitis were cured.

Pierre Moqnot

Jacob Suprapubic Fistula after Post Typhoid Suppurative Cholecystitis; Cholecystectomy; Recovery with Persistence of the Bacilli in the Stools (Fistule sup-pubienne consécutive à une cholecystite suppurative post-typhoïdique; cholecystectomie guérison, avec persistance de bacilles paratyphoïdes dans les fèces). *Bull et mem. Soc. de chir. de Par.* 93, xxxix, 12, 879. By Journal de Chirurgie.

A soldier, 27 years old, six weeks after the onset of mild typhoid fever complained suddenly of pain in the right half of the abdomen and in the

right shoulder. A collection developed above the pubis without jaundice, high fever. On incision pus was evacuated, later gall-stones and bile came out. Finally a fistulous opening remained in the laparotomy incision, just midway between the symphysis and navel. Small calculi occasionally, and bile containing large numbers of paratyphoid bacilli continuously escaped from it.

Cholecystectomy through a transverse incision proved very difficult owing to the exceedingly dense adhesions. The gall bladder was found much thickened and stuffed with calculi, its ulcerated fundus communicated with the sinus by a long fistulous tract burrowed through masses of adhesions. The hepatic and common ducts were normal. Recovery was uneventful but the man remains a chronic bacillus carrier as his feces contain many paratyphoid bacilli.

J. Desport.

Stockey The Employment of the Omentum for Hemostasis in Extirpation of the Gall-Bladder (Die freie Netztransplantation zur Blutstillung bei Gallenblasen-entfernungen). *Verhandl. d. wiss. Ver. d. Ärzte d. Stadt München-Klinik St. Petrus*, 93, xlii, 43. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

During the extirpation of a gall-bladder severe hemorrhage occurred from the liver which could not be controlled by tampons nor by hemostats, the latter tore through the liver substance. The doctor decided to use omentum to cover the defect. After pressure for 15 minutes the transplanted piece of omentum remained adherent to the liver surface and the bleeding was controlled completely. Three days after operation death occurred from cardiac conditions.

Post-mortem examination showed that the omental covering had become adherent over the raw surface of the liver where the serous covering of the liver was intact no adhesions took place. There was no blood in the peritoneal cavity. On cross section it was plainly seen that the omentum had become firmly adherent to the liver substance. This observation was confirmed by microscopical sections. Only here and there were small hemorrhages found between the omentum and the liver substance. The adjoining liver substance was markedly hyperemic. The omental capillaries were congested.

The author compares this method with that of Clarino and Negri, who transplanted peritoneal flaps. He points out that omental transplantation has several advantages. There is always plenty of material. It can be obtained easily with slight traumatism. It forms adhesions more readily than other flaps. The hemostatic effect is more marked.

Von Schilling.

Jordan Inhibitive Action of Bile on Bacillus Coli. *J. Infect. Dis.*, 93, xl, No. 3. By Surg., Gynec. & Obst.

To ascertain the inhibitive action of bile upon *B. coli*, pure cultures were plated in parallel series

upon plain agar and bile agar. A colony count after 48 hours incubation showed marked inhibition by bile both of strains of *B. coli* freshly isolated from human faeces and of those long cultivated on agar or kept for year in water suspension. Several of the freshly isolated strains were inhibited to a somewhat greater degree than other strains kept in water suspension or cultivated on nutrient agar for many generations. These results do not support the assumption that the effects of *B. coli* inhibited by bile are those which have become attenuated by long sojourn in water and are thus negligible in determining recent contamination. To investigate further this attenuation, 100 colonies of *B. coli* isolated from pure culture on plain agar plates and the same number from bile agar plates were tested for vigor in milk coagulation and maximum ureol production. The *B. coli* grown on bile agar showed no greater physiological activity than those grown on plain agar.

Samples of 100 and fresh sera were tested in 10 lactose broth and lactose bile in parallel series. 100 series of 100 samples each, *B. coli* was isolated from 1 per cent of the 100 broth and from 10 per cent of the lactose bile tubes. 100 series of 100 samples each, *B. coli* was isolated from 1 per cent of the lactose broth and from 10 per cent of the lactose bile tubes. 100 series of 100 samples each, *B. coli* was isolated from 1 per cent of the lactose broth and from 10 per cent of the lactose bile tubes. It thus appears that bile inhibits from one third to one half of the viable cells of *B. coli*.

Lange. A Case of Free Transplantation of the Omentum in the Abdominal Wound of the Spleen. (Die Transplantation des Omentums bei einer Verletzung des Milzes.) *Archiv für Klinische Chirurgie*, 1914, 10, 1, 1-4.

The patient had a laceration of the peritoneal cavity with a laceration of the spleen. Severe hemorrhage and marked rupture of the abdominal wall was present. A resection of the spleen and omentum was performed. The wound in the diaphragm was closed. A wound of the spleen bleeding severely was found. The wound of the spleen was tamponaded with free end of the omentum. Hemorrhage ceased immediately. Isolation of the pleura according to Frey and tamponade completed the operation. Recovery resulted. O. von Sauerb.

Mitchelson. Modern Surgery of the Spleen. (Die Operationen der modernen Milchirurgie.) *Zeitschrift für Chirurgie*, 1914, 10, 1, 1-4.

Mitchelson discusses the effect of splenectomy upon the organism. Numerous cases have proven that removal of the spleen does not result in any injury to the body. A hypersecretion following splenectomy is specific and may last for years

under certain conditions. The biologic characteristics of the blood are changed temporarily; the antitryptic and bactericidal power of the serum is decreased at first but soon returns to normal. Other phenomena following splenectomy are enlargement of the peripheral lymph glands, hyperplasia of the red bone marrow with pains in the long bones and an enlargement of the thyroid gland. These however are not constant. Several observations lead to the conclusion that under certain conditions small additional spleens may hypertrophy and take up the function of the removed organ. Injury of the spleen is a very frequent indication for surgical procedure. Dressed conditions of the spleen predispose to lacerations. During acute infectious diseases lesser trauma such as severe sneezing, coughing and vomiting may cause fatal ruptures. The same is true of malaria. Of the subcutaneous injuries the following are differentiated: contusions of the spleen, about laceration of the capsule. These demand attention only in case the capsule ruptures accidentally or if case hematomata appear or blood cyst is formed. The definite ruptures involving capsule are usually transverse tears and multiple in character in most of the cases. Laceration of the left kidney frequently complicates the injury and may render the diagnosis extremely difficult. The clinical picture may be divided into three stages: (1) symptoms of shock; (2) stage of improvement (latency) usually of short duration but occasionally lasting for several days; (3) stage of terminal hemorrhage or unusually during the initial shock. In severe cases the omentum entered the tear and aided. The diagnosis of the subcutaneous injury of the spleen can as a rule be made with certainty degree of probability. The operation of choice is splenectomy only. Markedly adherent large epiploic masses amenable should suffice but removal of the spleen is not advisable. Several cases may be overlooked. If not found at wounds, and other open injuries of the spleen are usually accompanied by injury of other organs (lungs, pleura, diaphragm, stomach, bowel). Isolated injury of the normal spleen can occur only when the diaphragm during the moment of injury is in a deep inspiration.

The diagnosis is extremely difficult and the demand that all peritoneal injuries of the lower left thoracic and exploratory thoracotomy should be performed is therefore not fully justified. In bullet wounds splenectomy is probably always indicated in at least wounds, however but it can be performed in many cases.

Abscess of the spleen may occur either because of suppuration of a splenic hematoma or the course of infectious diseases and is induced either by trauma or by embolic infarct. These abscesses are characterized by the tendency to sequestrum formation. The early symptoms are not characteristic and consist of fever and chills. Pain in the region of the spleen radiating to the shoulder occur only after the abscess reaches the capsule. If the

seat of the abscess is in the upper part the diagnosis is difficult as early involvement of the left pleura takes place. If the abscess is developed in the lower pole, palpable splenic tumor soon appears. Fluctuation rarely occurs, likewise respiratory rubs, as the diaphragm is more or less fixed reflexly but if they do occur no of deciding significance. Leucocytosis although frequently present is of value only in typhoid abscess. Puncture of the spleen is not without danger and should be performed only on the operating table where operative procedures may follow immediately. The prognosis of the operation is good if performed early.

Of the cysts, blood cysts are the most common, being however not true cysts. They are always single. In no contradistinction to these are the multiple serous and lymph cysts. Objective signs of splenic tumor with irregular nodular surface, fluctuation, rubs are frequently heard due to perisplenic adhesions. No diagnostic blood changes are present. The prognosis in general is favorable except in suppurative and ruptures. The best surgical procedure is resection. In very large cysts with not too firm adhesions splenectomy must be considered in very large cysts with firm adhesions, incision and drainage must suffice. Echinococcus cysts of the spleen are unilocular. They develop most commonly in the center of the organ, pushing both poles away from the center. This gives the organ a characteristic long-drawn-out shape. If hooklets are present the diagnosis is clear. Exploratory puncture is advised against on account of the danger. Operative treatment consists in opening the cyst widely, extracting the mother membrane and employing wide tamponade. To shorten coalescence it is advisable to bring the edges of the cavity together with sutures thus eliminating it.

Of the malignant tumors of the spleen sarcoma alone demands surgical interest. The diagnosis is made in the presence of rapidly developing, hard, nodular tumors in the absence of blood changes, fever, fluctuation and malaria, but accompanied by severe pains due to tension of the capsule and traction on the ligaments. Recurring malaria is the most frequent cause of tumor-like hyperplasia of the spleen. The malarial spleen as a rule assumes enormous dimensions. Its consistency is firm and the cut surface has the appearance of raw meat. Around it firm, but highly vascular adhesions are formed, especially at the lower pole. Pressure symptoms as a rule are mild, but the dystopic spleen by traction on its ligaments causes severe pain. The diagnosis as a rule is not difficult when the history and the characteristic form of the tumor are considered. Extirpation should be undertaken only in the presence of severe disturbances and in which the upper pole lies below or only a little below the edge of the costal arch. Partial ligature of the vessels of the pedicle is technically as difficult and has not proven practical. Splenectomy likewise has not found many adherents. The occurrence of an isolated tuberculous splenomegaly has been proven to exist but is

relatively rare. That occurring in the miliary form of tuberculosis develops slowly and may cause quite an enlargement of the organ which at times is nodular. The general condition is not materially affected in contradistinction to the splenic pseudo-leukemia in which the general condition with similar enlargement is severely affected. The diagnosis has rarely been made. The increase of the red blood cells (hyperglobulia) described by Rosengart is not pathognomonic. The treatment should be splenectomy performed as early as possible. It may be impossible in the presence of extensive adhesions in advanced cases. It is advisable to suture the spleen to the abdominal wound to establish drainage.

A wandering spleen usually occurs in the presence of diseased conditions and enlargements and especially during pregnancy. Sudden torsion of the pedicle causes stormy symptoms similar to torsions of ovarian cyst pedicles. In the presence of severe symptoms surgical treatment is indicated in a wandering spleen splenectomy for markedly diseased spleen except in leukemia and splenectomy according to Bardenheuer for a small wandering spleen. Surgical intervention is contraindicated in leukemia, anemia, splenic infarction, and in the splenomegaly of amyloid disease. Of the idiopathic splenomegalies Bant's disease alone interests the surgeon.

NEUROSES

Giffin: Clinical Observations Concerning Twenty Seven Cases of Splenectomy. *Am J M Sc.* 9, 3, 417-78. By Surg., Gynec. & Obst.

The histologic examination of the spleen in cases of splenic anemia reveals no constant histological picture, and the author here reports the clinical findings in the twenty-seven cases in which splenectomy has been performed in the M. J. O. Clinic. For convenience these are divided into three groups: (1) those which conform closely to the clinical syndrome of splenic anemia, eighteen in number; (2) cases presenting clinical features which suggest that the splenomegaly was part of a more or less widespread infection, and secondary rather than primary; (3) miscellaneous cases. In the study of these cases the author shows twenty-seven cuts outlining the splenic tumor and tabulates the post-operative results, giving the pathology, blood counts and all clinical data concerning them.

The author concludes that a proper grouping of cases showing marked splenic enlargement with an anemia of the secondary type is at present quite impossible, and that the clinical features form the best basis for tentative classification. It assists especially in recognizing clean-cut and uncomplicated cases of splenic anemia. The review indicates possible relationship between gall-bladder disease and splenomegaly and indicates more clearly in uncomplicated cases of splenic anemia that a large percentage of cases return to excellent health after splenectomy but in cases complicated by other diseases of an infectious nature the value of splenectomy is questionable.

ILL. A. POTTS.

SURGERY OF THE EXTREMITIES

DISEASES OF BONES, JOINTS, MUSCLES, ETC.
GENERAL CONDITIONS COMMONLY
FOUND IN THE EXTREMITIES

Claret and Dubreuil. Action of the X-Ray on the Development of Calli. Comparative Study of Radiographic and Microscopic Aspect of Callus (Action des rayons X sur le développement du cal. Étude comparative des images radiographiques et microscopiques du cal). *J. de physiol. et de pathol.* 1913. 9. 3. 25. 367. By Journal de Chirurgie.

In the other experiment fractures were produced the legs of dogs and then immobilized in plaster. Some were treated with Röntgen rays and the dogs killed after variable time in order to determine the influence of the rays upon the formation of callus. Others were radiographed but not subjected to long exposure and were used to determine the histologic significance of the radiographic appearance of new-formed callus. His conclusions:

Cartilaginous callus unifying fracture is not recognizable by shadows.

The union may appear firm upon clinical examination as result of fibrous or cartilaginous callus, and yet the radiograph may resemble that of recent fracture.

If a dog not exposed to treatment with the rays, the bony callus makes its appearance between the eleventh and seventeenth day. It is contrasted by long exposure to the X-rays on different spots of the fracture the bony callus is delayed until the forty-first day.

If only one aspect of the fractured surface has been exposed to the rays the callus appears first on the opposite side.

These effects of the rays are the same whether the exposures are made before or after the fracture but the formation of the callus is only delayed if finally follows its normal course. PIERRE CARTY.

Maehard. The Use of Tuberculin in Osseous Tuberculosis in Children (De l'emploi de la tuberculine dans la tuberculose osseuse chez les enfants). *Rev. méd. de la Suisse romande*, 9. 3. 1913. 313. By Journal de Chirurgie.

Maehard has experimented with TBk (Berneck tuberculin) in twenty-one cases of osteo-arthritis tuberculous in children from four to fourteen years of age. One fungus osteo-arthritis of the knee, ten costalgias and six spondylitis cases were treated by local injections and four by hypodermics. All cases treated locally resulted satisfactorily, four had doubtful results and seven, negative. In the fungus osteo-arthritis of the knee the condition was aggravated. The successful cases would undoubtedly have cleared up as rapidly under the usual treatment.

Those treated locally the amount of local reaction and the changes in temperature varied greatly with the same dose showing no relation to the amount or quality of tuberculin used. In fact the

temperature changes in patients who were not getting tuberculin and in the periods of rest of those who did get injections were just as great as in those who were receiving regular treatment. Maehard is of the opinion that tuberculin treatment of osteo-arthritis tuberculous in children can not replace the other conservative treatment and in fact is dangerous in certain cases.

Sahli advises seeking negligible local reaction, whereas Coulson advises strong local and general reaction. It seemed difficult to find the amount of TBk necessary to produce negligible local reaction.

VALETTE stated in discussion that Maehard's technique differs from that used by Coulson. Generally speaking Maehard makes calcei doses 4 four day interval whereas Coulson makes his injections every eight days. Further Maehard treated cases of vertebral tuberculosis in which the situation was as hard to bring in contact with the TBk. If the fungus osteo-arthritis case favorable result might have been obtained by subcutaneous injections. Coulson has had good results in adults as well as in children. Vallet believes that Coulson's positive cases are very encouraging, and that more work should be done along this line. J. DOWSON.

V. Ispas. Treatment of Surgical Tuberculosis by Means of Light Rays (Über die Lichtbehandlung der chirurgischen Tuberkulose). *München. med. Wochenschr.* 1913. 50. 1. 970. By Zentralblatt für ges. Chir. L. GROSSMANN.

The author discusses the physiological influence of light, with special reference to its remotest effects. He reviews the technique of heliotherapy used by Rollier for its general systemic effect and by Bernhardt for its local effect on the diseased area in cases of surgical tuberculosis. Clinical experience of the Rappena sanatorium has convinced the author that heliotherapy can be as successfully applied in the lowlands as in high altitudes if one takes advantage of the artificial light rays. The author employs the electric arc light as well as the quicksilver vapor light and the quartz lamp.

He believes that light therapy is destined to take an important place in the treatment of surgical tuberculosis. "We can state positively that light therapy in its present form in the lowlands can compete with heliotherapy of the highlands. This has been made possible by the ease with which natural and artificial light can be combined. When the two methods are compared it cannot be disputed that artificial light has certain advantages. It is always at our disposal and not dependent upon weather conditions. The amount and intensity of the light can be regulated, which is not true of the ever varying sunlight with its uncertain ultraviolet contents. The quartz lamp furnishes richness in ultraviolet rays which surpasses even that of natural sunlight of the highlands. BAUMANN.

Müller: A Case of Acute Bone Atrophy (Über einen Fall von akuter Knochenatrophie). *Deutsche wiss. med. Ztschr. Berl.* 9 3 xlv 387.
By Zentralbl. f. d. ges. Chir. u. i. Göttingen.

Müller treated a case of acute bone atrophy for many months and states that it is desirable in such a condition to have X-ray examinations taken as early as possible. The diseases with which this may become confused are chronic articular rheumatism, neuritis, traumatic joint conditions, phlegmons of the soft parts, herpes zoster etc. The typical findings upon X-ray examination are the involvement of the base and head of the bones, not of the diaphysis, as is observed in chronic atrophy due to inactivity or senile atrophy.

The author beherrs with Sudeck and Kleinbock that acute bone atrophy is due to tropho-neurotic reflex disturbances and recommends, if the diagnosis is correct, energetic passive motion instead of the usual treatment of rest and wrapping the limb in cotton. In his own case, the author obtained also good functional result within short time. In conclusion, he points to the fact that in spite of the good functional result obtained the bone atrophy persisted unchanged. According to his point of view the affection consists not merely in rarefaction of the bone salts due to the prolonged atrophy but in a solution of the entire bony framework. KNOTT.

Mellin: The Multiple Brown Tumors Found in Osteomalacia (Über die multiplen braunen Tumoren bei Osteomalacia). *Arch. f. klin. Chir.* 9 3 cl. 133. By Zentralbl. f. d. ges. Chir. u. i. Göttingen.

The author reports in detail three cases which he classifies as osteitis fibrosa atrophica on the basis of pathological histological studies in contradistinction to the osteitis fibrosa hypertrophica in which an increase of bony substance takes place. He emphasizes the fact that even in view of the appearance of the brown giant-celled sarcoma-like tumors there is no essential difference between these two forms of the disease. The different forms of bony malformations be attributed to loss of balance between the bone-forming cells and the bone-destroying cells, caused either by an irritation or a destruction. As the cause of the disease is still unknown it is of importance to know that the author in three cases found definite hyperplasia of the parathyroids. The findings reported first by Erdheim are therefore confirmed. In the interpretation of the brown tumors the author's views coincide with those of Lubarsch and Rehnman. He considers the epulis-like tumors not as definite new growths but as hyperplasias incident to the irritative and destructive processes occurring in the bones. STAMMER.

Domingo: Cystic Tumor of the Head of the Femur (Tumeur kystique de la tête du fémur). *Rev. de l'Hosp. Montevideo.* 9 3 vi. 3.
By Zentralbl. f. d. ges. Chir. u. i. Göttingen.

The patient some years before coming under observation had violently twisted his left lower limb

injuring the hip. He was confined to bed for one month and was not able to walk for five months. Four years ago the patient fell from a horse upon the left hip. Following this accident he experienced pains in the inguinal region. He began to limp and one year ago noticed a swelling at the outer part of Scarpa's triangle which steadily increased.

Examination showed swelling in the above named region and trophy of the limb. Movements were painful. Immediately inferior to Poupert's ligament there was a hard irregular mass of about 8 cm. in diameter also several small glands. The great trochanter was increased in size. X-ray showed a tumor the size of an orange, surrounding the head of the femur the anatomical neck and upper part of great trochanter.

Operation. Antero-external incision. The tumor was opened and bloody fluid escaped. The cavity was lined with loose soft tissue and the wall were smaller cavities giving the cyst sponge-like appearance. The cavity was packed, and following the operation it contracted and healed. Histological examination of the bony fragments revealed cystic enchondroma. The author entered into a full consideration of cysts of the long bone. SALVA MIERAND.

Brooks: The Treatment of Gonorrheal Arthritis. *Hekimenen, Moskva.* 9 3. xlvii. 4.
By Surg. Gyroc. & Otol.

Results in these cases are not good. The author had all degrees of limitation of motion and believes from the literature that such is the usual result in the severe cases. There is no such thing as an idiopathic arthritis, but a primary focus always exists with definite period of metastasis for each organism — streptococcus, 24-36 hours grippe, 9 days gonorrhea 19 to 20 days.

Gonorrheal arthritis gives sudden onset involving several joints of which all clear up but one. Thus it differs from tuberculosis, in which the onset is slow and never under three weeks after injury. The knee is the most frequent site of gonorrheal arthritis. Destruction is due to the accumulation and pressure of products of infection in the capsule.

Brooks divides aspiration and injection of 5 to 10 cc. of percent formalin glycerine in intervals of from a day to week. He secures extension by Buck's adhesive dressing with weight enough to separate the joint surfaces and relieve pain. Opens and clears out the joint, if aspiration is impossible on account of thick fluid considers vaccines next in importance to surgical measures and uses Nesser mixed vaccine from 50 to 500 million in a dose. Bier's hyperemia is of use in subcutaneous stages. C. E. WATTS.

Edberg: Purulent Arthritis in Socklings and Its Importance in Future Deformities (Om purulenta spådbarnsartrit och dens betydelse för framtida deformiteter). *Hypoc.* 9 3 lxxv. 303.
By Zentralbl. f. d. ges. Chir. u. i. Göttingen.

The author reports four cases of purulent coxitis one case of ompharthritis one case of simultaneous

omarthrits and gonitis and no case of bilateral gonitis. The bacteriological examination verified the presence of pneumococci in a three weeks old coxitis at physoced (pyoar) in three cases viz in 6 week old coxitis ten days old omarthrits and a 6 weeks old omarthrits and gonitis and streptococci in 1 month old bilateral gonitis. The cases of coxitis (one three week old and one six weeks old) are not examined bacteriologically though the author of the operation for valid reasons that both are due to septic infection. The author is of the opinion that the connection is direct operation to those of Rowing, who in 1906 asserted that in sucklings many cases of joint anasarca was that redness and septic are in reality tuberculous in origin. The author corroborates the prevailing opinion as to the significance of acute enteric (arthritis) bone and joint infections. He is of the opinion that the catarrhal synovitis of the old Volkman school is the usual pathological anatomical form not without the fact that central involvement observed occasionally. The author bases his opinion upon the rapid healing frequently followed by slight arthrosis. None of the arthrosis cases ended fatally the suppuration terminated after an small incision. Fortunate is the author as later years the cases described for several years. None of the coxitis cases bore localization at the time of the first operation. In 1 case of arthrosis complete localization developed within 4 weeks. In 4 cases localization developed less frequently. The acute stage of the septic coxitis. In all these arthrosis developed early post-articular increases the width of the joint perforated early and the pusless synovial properties are diminished. It is not easy to state that localization depends primarily upon the duration. In case the former does not occur before the capsule is perforated. In weeks there are no septic destructive localizations observed, like those that occur in osteomyelitis cases somewhat advanced. The most remarkable observations brought to light by radiographic examinations are the extensive atrophy and deformity of the entire intra-articular part of the extremity. There is marked incongruity between the head and the extremities in this respect, which is noticed with increasing force and frequency as the extremities are approached. This condition is influenced by motion, muscular forms, and the burden imposed—all of which tend to induce luxations.

The author points to the possibility of radiographic differential diagnosis between congenital luxations of hip-joint and those resulting from coxitis occurring during the suckling age. The author claims priority for these studies, which were first described by Drehmann.

In 1 case of luxation of the hip-joint operative reposition was successful. In none of three cases of gonitis which the author could observe was there permanent injury following upon persistent arthri-

tis. These cases present a favorable prognosis, presuming early and correct treatment.

In a subsequently examined case of omarthrits, atrophy of the head of the joint and soft crepitation were established but no tendency toward an habitual luxation was noted. Gisbert.

Greifenhagen: The Mobilization of Ankylosed Elbow Joint by Means of Peritoneal Transplantation. (Über Mobilisierung des ankylosierten Ellenbogens durch freie Peritoneumtransplantation). *St. Petersb. med. Ztschr.* 9, 3, 1910, 49.

By Zentralbl. f. d. ges. Chir. 4, 1, 1910, 10.

For the mobilization of an ankylosed elbow joint, Greifenhagen advises the interposition of peritoneal flaps which may be taken from the tibia. After the removal of the perosteum it is advisable to incise cortical fibers. The flaps are laid out upon the freshened bone surface with the outcropping layer upon the articular surface. The outer wound is closed almost completely. Small drainage is being inserted at one angle. The arm is kept quiet. After a few weeks passive motion is begun. The defect of the tibia perosteum is closed immediately and no disturbance occurs. The author described three cases. Hoffmann.

Althoff: Traumatic Lesions of the Meniscus of the Knee. (Läsionen traumatischer des Meniscus des Knie). *Arch. f. klin. u. exp. Med.* 1910, 1, 1, 1.

Althoff reports eight cases of trauma to the knee resulting in injury to the internal meniscus. From these cases and those in the literature he has come to the following conclusions:

1. Injury to the meniscus is produced by direct or indirect trauma caused generally by sudden torsion of the knee.

The internal meniscus is usually affected.

2. The symptomatology is varied: (a) Localized pain over the meniscus (b) hydro-artrosis, slight or intense (c) fixation of the joint as by foreign body (d) limitation of motion, especially extension, (e) abnormal mobility of the knee.

3. Treatment gives better results than suturing of the meniscus. The operation is simple but strict asepsis must be employed. The author advises early exploration in all cases of chronic hydro-artrosis so that atrophy of the triceps may be prevented. J. DeWitt.

Bartow and M. Carter: Further Observations on the Use of Intra-articular Milk Ligaments in the Paralytic Joint of Polio-myelitis. *Am. J. Orth. Surg.* 3, 2, 1910.

By Surg. Gyner & Obst.

The authors have described in previous paper technique designed to give better control of the more or less flail joints following poliomyelitis. In brief the procedure is to introduce paraffined silk into the joint and hold the parts in correct weight-bearing posture and at the same time allow of

cert in amount of movement. The silk is expected to act as mechanical agent in holding the correct posture for time but eventually to become invested with an enclosing of fibrous scar tissue which will act as an interarticular bony ligament in effect somewhat like the normal crucial ligaments of the knee.

The operation as described is as follows. For example a paralytic valgus the drop foot a small incision over the inner malleolus down to the bone. At this point a specially designed curved drill diamond pointed and thin as the point is entered into the bone and forced down and for ward, traversing malleolus at valgus scaphoid and inner cuneiform. At the point of emergence small incision is made and one or more strands of the silk led back through the tunnel the bones. A second insertion of the drill at the upper point is carried to the lower foot through the bone but through the integument round the joint and the other end of the silk strand is led back to the first point forming the loop. This is pulled up tight and tied pulling the foot into slight varus and dorsiflexion. A plaster splint retains the position for from 4 to 10 weeks, the modified shoe is then applied and walking began.

This procedure may be modified to include both sides of the foot for drop into the os calcis for calcaneus, or through the condyles and the heads of tibia for flail knee also through the anterior superior spine of the ileum and greater trochanter for paralysis of internal rotators also through the acromion and head of humerus for paralysis of the shoulder and subsequent fixation of the humeral head.

The authors state that all told over 50 joints have been so treated and almost all of these there has been marked improvement in function and position.

Earlier cases relapsed, but longer plaster fixation, no longer time for the scar envelope of the silk to form, corrected this detail.

There have been no infections and in only three cases as it necessary to remove the silk, and that only after period of from three to six months. In all these latter cases there was no sign of infection. The silk was partially disintegrated and after removal the corrected posture as well maintained by the interarticular scar.

The authors last call attention to the necessity for heed to asepsis in the handling of the silk also all secondary deformity produced by factors must be recognized and properly dealt with. Contractures, strong opposing muscles etc. must be eliminated. It frequently happens that a knock knee complicates flail valgus foot, and it is essential to correct the knee posture as well as the foot. Other such combinations will suggest themselves.

The authors state that they feel that this measure will find very useful field in the early surgical treatment of these lesions, as there has been no destruction of joints and yet late returning muscle power will not be interfered with. It also obviates

a long and protracted period of apparatus treatment, and furthers the use of developmental exercises.

The authors do not advocate this method as the only treatment for flail joints but in properly selected cases have found it the best method and very useful in combination with some of the other operative procedures.

Tumeurs Sarcomas of the Tendon Sheaths (Les tumeurs des gaines tendineuses) *Rev de chir* 9, 3, 1911, 87 *Ny Journal de Chirurgie.*

The author reviews 93 cases of sarcoma of the tendon sheaths in 60 the tendon sheaths of the upper limbs are involved and in 7 those of the lower. The tendons of the hand, especially the flexors were affected most commonly. Trauma is often the original cause and it sometimes starts rapid growth already existing tumors. The tumors are lobulated, reddish yellow in color and very vascular. The connective tissue forms are hard, the cellular forms soft. The tendon is last invaded but the muscle and cellular tissue offer but slight resistance. Degeneration is rare and lateral metastases uncommon. There are round, epithelioid and giant cell sarcomas myo-fibro- and alveolar sarcomas, these by some authors being classed as endotheliomas. The giant cell form is not common.

The beginning is slow and insidious, rapid growth indicates malignancy. The tumor is first interlobular hard or elastic and not reducible. The tendons and ligaments are involved last in the process. Pain is late and not marked symptom. When the tumor becomes malignant it grows rapidly invading neighboring tumors and becoming generalized by the blood stream. Generalization occurred in only six of the cases cited. Recurrence is quite frequent (3 cases) and even the giant cell sarcomas recur. They must be duly guarded from arthrosynovial cysts, exostoses and osteosarcomas. Muscular sarcomas are differently located. The treatment should be surgical and radical if the tissues are infiltrated (amputation or disarticulation).

In fourteen cases of round cell sarcoma there were eight recurrences usually with generalization and sixteen cases of the epithelioid form, six recurrences. These recurrences should be treated by secondary amputation. J. ORMOND.

Spleen The Gist-Cell Sarcoma Originating in the Tendon-Sheath and Aponeuroses (Zur Lehre der von Sehnencheiden und Aponeurosen entstehenden Riesenzell Sarkome) *Frankf Zchr f Pathol* 9, 3, 1911, 101 *By Zentralbl f d. ges. Chir* 1 Grenzgeb.

Spleen studied forty-eight cases reported in the literature and four of his own observations in regard to the pathologic-anatomic characteristic of these tumors (for the details the original work must be consulted) and on the strength of his studies came to the conclusion that they are variety of generalis. They arise principally from the tendon sheaths of the fingers and from the palmar aponeurosis.

Etiologically no definite cause has been found, and chronic granulatio processes can safely be excluded. The development takes years, yet the tumors never become larger than egg. The tumor is definitely benign they should not recur after thorough removal. Their pathological-anatomic characteristics are as follow. They contain fairly large amount of hemosiderin. There are many multinuclear giant cells present. 3. The so-called xanthoma cells are found. 4. The structure is ragged. The tumor sharply limited by connective tissue capsule. It resembles epulis considerably especially if many giant cells are found. Spices suggest the name hemoidermin containing sarcoma plus to cellular xanthomatodes of the tendon sheaths and spongiomas. Koser

Fleiszig. The Granuloma of Tendon Sheaths. Heterotopia Defined as Giant Cell Sarcoma. *Stromatose Über die bisher als Riesenzellstumme - Stromatose bezeichneten Granulationen in der Sehnenhülle. Deutsche Zeitschrift für Chirurgie* 93, 1900. 30. By Zentralblatt für Chirurgie. Grawitz

Fleiszig had occasion to observe 3 cases of tendon sheath tumors during the past 3 years. The large majority of such tumors have previously been considered giant-celled sarcomas (stromatoma). New detailed investigations have shown, however, that these tumors lack the principal diagnostic point of neoplasms, such polymorphism polymorphous destruction, invasion of surrounding tissues and outflow. For the recognition of such affection, the macroscopic appearance, such as their small size, their ragged structure and their yellowish marbled appearance is important. In support of his text, Fleiszig cites several illustrative cases from the literature. These granulomata take their origin more frequently from the tendon sheaths of the fingers, especially from the flexor tendons, more rarely from the tendon sheaths around the malleolus and the radiocarpal joints. They do not recur. The conclusion may be drawn that no mutilating operations are necessary but that the careful extirpation of the diseased tissue suffices. Koser

FRACTURES AND DISLOCATIONS

Dejouanny. Fracture and Dislocation of the Internal Meniscus of the Knee; Excision; Cure (Fracture et luxation du ménisque interne du genou; excision; guérison). *Bulletin de la Société de Chirurgie de Paris* 93, 1900, 484. By Journal de Chirurgie.

This communication by Dejouanny was presented by Lejars. The latter pointed out the rarity of operation for lesions of the meniscus in France, which is in marked contrast to its frequency in England.

The case operated upon by Dejouanny was that of a cavalryman who was thrown from horse and whose leg was terribly flexed and rotated out and in.

It was soon able to go about his work but frequently slight movements caused the limb to become locked in semiflexion and the knee joint full of fluid.

A diagnosis of traumatic lesion of the internal meniscus was made. This meniscus was easily removed and found to consist of 2 fragments of fibro-cartilage 20 mm. and 5 mm. in length the posterior fragment being easily folded out the anterior. The anterior fragment was attached to the tibia the posterior free in the joint cavity. A perfect recovery was obtained.

Lejars mentioned several cases in which he had made diagnosis of traumatic internal meniscus and reported one of these on which he operated. Here there was merely very movable cartilage which was removed. It was still too soon to judge regarding the result.

To make diagnosis of this condition there should be sudden painful fixation of the knee followed usually by hydnarthrosis and a painful point and ridge the region of the meniscus when the limb is extended but disappearing when it is flexed. A total meniscectomy is the only manner in which to obtain a permanent cure even if it is only a normally movable cartilage.

Demonstrations, M. Simon, Arrou, Krummholz, T. Bier, Quén, Manceline and Lejars then reported series of cases of injury to the internal meniscus and discussed the etiology, diagnosis and treatment of the condition. J. Brown

Gellinsky. The Treatment of Fracture of the Calcaneum and of Fracture of the Middle Bones of the Foot With Lathes (Die Extremitätenbehandlung bei Calcaneusfractur und den Mittelfracturen der Fussknochen). *Zeitschrift für Chirurgie* 93, 1900. By Zentralblatt für Chirurgie. Grawitz

In oblique fractures of the os calcis in which the arch has fallen, as in flat foot, the author advises tendo achilles tenotomy. His extension of the foot by means of a thin board fitted to it. This is to bed the anterior part of the foot with adhesive plaster and to the heel by strong silver wire which by means of thick round, straight handle is pulled through the angle between the origin of the tendo achilles and the tubercle of the os calcis. In the hollow of the arch rubber sponge is placed. Extension is applied by means of a cord pulled to the middle of the board. After 2 weeks the sponge is removed and the hollow is filled up with plaster of Paris, the board is fastened to a plaster slab and the patient is able to walk about. A similar method without tendo achilles tenotomy is applicable to malleolar fractures and all direct fractures of the middle part of the foot. Simonson

Harlowe. Complete Backward Dislocation of the Knee; Cure by Gentle Extension (Luxation complète du genou en arrière guérison par l'extension continue). *Bulletin de la Société de Chirurgie de Paris* 93, 1900, 800. By Journal de Chirurgie.

Harlowe reports the case of a jockey who was thrown from his horse and suffered complete backward dislocation of the knee. This was easily reducible, but could not remain in place. Four and

then at 4 kgm. extension weights were applied which kept the knee in position. After 3 days the extension was removed. After 34, the patient walked, and after 45, he left the hospital. Six weeks later he was able to ride in races.

Hardoon then made some clinical and experimental researches and found that there are 3 types of backward dislocations one in which the posterior cervical ligament alone is destroyed and one in which all the ligaments are torn. In the first type the dislocation can occur only back and in the second the head of the tibia can be carried forward and also sideways. J. DEXTER

SURGERY OF THE BONES, JOINTS, ETC.

Murphy Old Union Fracture of Anatomic Neck of the Femur with Suggestions for the Immediate Treatment of this Fracture South M J 9 3, 1913 By Surg. Cyner & Olat

The author first discusses the uses of non-union of fragments in fracture of the neck of the femur under all forms of treatment and includes by saying that there are no fractures of the neck which must result in non-union no matter what form of treatment is employed short of operative procedure the reason for this being the interposition of tissue between the ends of the fragment. It is in these cases that open operation is positively indicated. The operator follows no single plan in exposing the neck of fracture, but certain cases use longitudinal incision and others U-shaped incision. When the trochanter must be removed the U-shaped incision employed by Cuthbert is then passed beneath the muscles attached to the trochanter and the trochanter divided. By dissecting the leg and turning the foot out and the fracture end of the neck of the femur and the shaft are easily exposed. If the trochanter is not to be removed the incision should be brought on. In this case the fascia lata is divided, and the fibers of the gluteus medius muscle are separated giving one immediate access to the fracture of the neck of the femur.

When the intervening tissue is removed the ends of the fragments are freshened and approximated. Two or more 2, or penny wire nails are driven through the neck into the head from the shaft side of the bone. The trochanter if it has been removed, is then nailed in position with one wire nail. The soft parts are sutured, the wound closed without drainage. A cast is applied. Both legs are then placed in a travel's splint so as to insure abduction of the affected leg. The author emphasizes the importance of this splint in order to maintain abduction. A number of illustrations and X-ray pictures follow explaining the author's methods.

The plaster of Paris cast, including both hips with abduction of both legs, meets the conditions of impacted fractures, but it is very inconvenient to the patient. The so-called railway splint is likewise deficient. However no splint, even with extension, abduction or lateral traction, can secure union of the

fragments when the capsule or other soft tissue lies between. The amount of traction should vary with the musculature of the individual usually between 5 and 35 pounds. The author advises the use of the old-fashioned diachylon mole-aki plaster as rubber adhesive plaster frequently produces an eczema.

The author cautions against applying the Buck extension so that pressure upon the external popliteal nerve may not occur where it passes around the neck of the fibula, lest footdrop result. In applying the cast a window should be cut at this point.

In from eight to sixteen weeks, in adults, bony union will take place between the fragments of the neck of the femur. In children from five to eight weeks are sufficient to produce firm bony union.

If all of this bone work strictest asepsis must necessarily be maintained. FARNHAM G. DRAKE.

Meyer The End Result Following the Radical Operation for Knee-Joint Tuberculosis in the Adult (Über das Endresultat radikaler Operationen Kniegelenk-oberflächen bei Erwachsenen) Deutsche Zeitschrift für Chirurgie 9 3, 1913

By Zentralblatt für ges. Chir. I. Grenzgeb.

Since Bradford reported the results of operated cases of knee joint tuberculosis prior to the filter technique the author now renders the results of those over fifteen. Among seventy-seven cases (eighty-two were performed seventeen times (eight times primarily and nine times secondarily). In the three first cases no excellent result was obtained in an eighth case only after excision of the patella, excision of the synovial membrane drainage and hyperemia. It is now ten years since the onset of the disease but the patient is perfect her movement complete and she is able to dance. Of the forty-eight resections which did not need secondary amputation the author was able to examine thirty personally. The operation of choice is the curved method of resection according to Hellerich. By means of eight reconstructive tables the author gives the clinical course, findings, duration and result and treatment.

Final results. A total of seventy-seven operations were performed in sixty-seven adult patients twenty-three of these died, seventeen of tuberculosis. Of fifty-seven cases of resection fifty-five were followed up. Of these thirty-three are living and cured, with firm ankylosis only two are unable to perform their labor nine died, but the condition at the time of death was cured nine had to be amputated secondarily and four died with the condition not cured.

DOUGLAS SCHULTZ.

Göbbel The Treatment of Ischemic Muscular Contraction by Free Muscle Transplantation (Zur Bewertung der ischämischen Muskelkontraktion durch freie Muskeltransplantation) Deutsche Zeitschrift für Chirurgie 9 3, 1913

By Zentralblatt für ges. Chir. u. Grenzgeb.

Following redressment on account of tendon contracture of the right elbow after an extensive

by outside forces cling on the calcined parts they are not caused primarily by unbalanced muscular action but by a loss of *tone* the force of gravity or the pressure of the body right being too powerful for the paralyzed, toneless muscles. The tagonal muscles find themselves stretched and therefore contract somewhat to take up a position in which they regain their tone. After constant repetition of the defecally the new tone becomes normal and the muscles are unable to relax to their former position. Constant contraction and disuse cause them to atrophy and in time fibrous changes take place which further exaggerate the deformity. While these changes are occurring in the paralyzed muscles, the opposite is the case in those paralyzed the latter are gradually more and more overstretched and as a result healthy muscle fiber that have escaped paralysis and the ligaments, bones and joint undergo secondary changes.

The treatment is then proceeds to the head. For the treatment of which the most important thing is to relax the paralyzed muscles. It is as possible to rest in the limb in such position that they will be fully relaxed. After the use of massage, electricity, muscle beating and other means of stimulation may be substituted. Plaster of Paris casts are not recommended on account of their weight and the impossibility of applying massage. The part should be retained in a slightly over-extended position the spinal apparatus should be continuously adjusted. It is evident that no further improvement will take place if the muscles are in the state of recovery as soon as the paralyzed muscles show some strength voluntary action should be encouraged.

The conservative or surgical treatment deals with deformities which result from unstable fracture. In those following fracture correctly as well as but unsatisfactory use of the cast of the permanent damage to the effects of the former the paralyzed muscles may require considerable amount of power after the deformity is corrected and suitably treated but in the second class no such return of power can be expected. Measures for the correction of the former include the following: propped straightening of the part with the hand or Thomas traction, division of tendons and other contracted structures, the removal of skin areas and the taking up of laxer tendons, osteotomies and the removal of portions of bone. The latter requires

such measures as muscle and tendon transplantation, arthrodesis and nerve anastomosis.

In cases of extensive paralysis which do not respond to mechanical or medical measures and are amenable for surgical treatment, some form of apparatus can usually be found of advantage.

The author takes up in detail the consideration of each individual deformity describing the methods of prominent orthotics. ROBERT B. CORNELL.

Melchior: Madelung Deformity of the Wrist (Die Madelung'sche Deformität des Handgelenks). *Zeitschr. f. Chir. u. Orthop.* 1935, 1, 649.

By Zeit. f. Chir. u. Orthop. 1, Göttingen.

Madelung's deformity is of rare occurrence only about seventy-six cases have been published. Melchior and others (Dysplasia Sigmoidea) consider it probable that rachitis plays a prominent role in the etiology as other rachitic phenomena usually accompany the deformity especially the spreading and irregularity of the radial epiphysis. The early location of the ulnar end of the epiphysis may be the cause of the deviation of the joint. The position of the carpus, therefore the bone downwards. In descriptions which refer to the posttraumatic subluxation of the hand, stenosis of the non-pronator name Madelung's deformity but if the nature of the disease is not clear the term itself should be applied to the symptom complex described by Madelung himself and not to other wrist joint anomalies such as hyperextension, dislocation of the joint in which the epiphysis is normal or injured by rheumatic processes such as the bilateral subluxations of the ulna.

The bilateral nature of the ulnar such as congenital dislocation of the radio-ulnar joint or traumatic carpal fracture of the ulna should not be considered as being the deformity in question, as the nature of the deformity depends not upon the external configuration, but upon the position of the distal end of the ulna in which the displaced ulna plays only a secondary role. The course of the deformity can hardly be influenced therapeutically. Pains occur only during the period of formation. After one or one and one-half years the disease remains stationary and produces only cosmetic defects, which however cannot be influenced by osteotomies. In conclusion the author refers to the reversed form of the deformity the typical overcurve in which the radius has dorsal concave curvature. SIMONSON.

SURGERY OF THE NERVOUS SYSTEM

Nord-Joensen, J., Bary and Martini: Malignant Cubital Neuroma (Schwermaligne cubital Neuromatose). *Zeitschr. f. Chir. u. Orthop.*

The authors report the case of a boy years old who had a tumor mass in his left arm the size of an orange which was first noticed six months before. On examination hard rounded nodules were found

all along the course of the great branch of the arm. There was no ulcer or subcutaneous lymphadenopathy or focal disturbance.

At operation the tumor as found to have originated in the cubital nerve and it have extended by small neoplastic growths along the course of the nerve up to the axilla. Two years later there was

recurrence of the tumor which was removed, but returned after a year. The patient died following the removal of this. These diverse neoplasms of the nerves of the arm, more commonly of the cubital than of the cubital and median, make it possible to state the course of each operation to state what sort of neoplasia is present.

This case presented the usual clinical symptoms as it began in the deeper tissues, gradually involved the more superficial and did not give rise to disturbances of action or general health.

The first tumor was excised with some of the nerve the cut ends of which were brought together by catgut. The nerve soon functionated as is so frequently the case following excision of nerve tumors.

Histologically this tumor was a sarcoma of the cubital nerve and the question was did it develop from the nerve fibers or the nerve sheath? The authors believe this to be true neoplasia developing from the sheath of Schwann and not from the fibrous tissue sheath. The tumor cells were intermixed with the nerve fibers and the sheath was intact. The tumor did not invade the neighboring tissues. J. DOWD.

If it is Sciatica and its Treatment. *Med. Rec.* 9, 3, 1900, 53. By Surg. Gynec. & Obst.

The causes of sciatica may be grouped under four headings: (1) intra-pelvic disease; (2) constitutional; (3) damage to the nerve trunk; (4) damage to the sacro-lumbar joint. Occupation is a factor in the production of sciatica — in this respect exposure over-exertion and pressure enter into consideration.

The symptoms of sciatica are pain, gait, swelling of the muscles, tenderness of the nerve, pressure, sometimes loss of the knee jerk. The course of sciatica is long, tedious and discouraging.

The treatment must depend upon the cause. If rheumatic, diabetic or due to pressure the remedies must be proportioned. If there is no discoverable cause, treat it as a primary neuritis. Rest, protection of the leg and counter-irritation are the most valuable remedies, while cupping and leeches help but the Paquet's catheter is preeminently the best of all local remedies. If the case is severe inject 100 cc. of normal saline solution into the sciatic nerve. The injection may be either below the knee in the peroneal branch or above the main trunk. If this of all kinds are of benefit. If not air is questionable. Hypodermic injections of morphine and cocaine are dangerous. Massage may help. Stretching the nerve should be relegated to the list of remedies of last resort. As far as medication is concerned the best is large doses of cal, strychnine and methylene blue are valuable. The most important thing of all is to keep up the general health of the patient. To attain this end resort to nerve foods, tonics, and especially to food-producing foods. Avoid alcohol. Give attention to the after-treatment and do not discharge the patient too early.

De Lues. Action of the X Rays on the Peripheral and Central Nervous System. *Arch. Rad. Ray.* 9, 3, 1901, 9. By Surg. Gynec. & Obst.

To test the sensibility of central and peripheral nervous tissue to X-rays, experiments were made on white mice and guinea pigs. By protecting all except a small area over the brain spinal cord or sciatic nerve and by protecting these superficially with filters, massive doses were given without grave constitutional effects and with no local effects beyond epilation. In no case did the irradiation result in paralysis or even minor motor disturbances.

These researches help to prove that the nerve cell and fiber elements are at the lower end of the scale of radio-sensibility. This agrees with the previous findings that cells with higher and fixed functions such as are found in the retina, nerves, muscles, etc., are relatively immune to the action of X-rays. Such tissues are incapable of regeneration and are to be contrasted with tissues containing young cells such as are seen in the liver, bones, and genital glands, particularly in the growing or multiplying stages.

It has been argued from these facts that it is the protein content which determines the radio-sensibility of all cells and by this measure nervous tissue would be classified low in the list on account of its small proportion of chromatin elements.

HOLMES L. PORTER.

Oehlecker. The Symptomatology and Surgery of the Marfan's Disease of the Phrenic Nerve (*Zur Klinik und Chirurgie des Nerven Parastiches*). *Zentralbl. f. Chir.* 9, 3, 1901, 85. By Zentralbl. f. d. ges. Chir. u. L. Göttingen.

On the basis of a number of observations the author comes to the conclusion that in inflammatory conditions and in mechanical irritation of the endings of the phrenic nerve in the diaphragm a pain in the shoulder of the same side is felt. Mayo-Robson was the first to point out that pain in the back of the neck is a symptom of a supra-renal neoplasms transmitted by the phrenic nerve. Oehlecker observed such pains in a case of hemorrhage in the right subphrenic space in a case of perforated gastric ulcer with an exudate in the left subphrenic space, etc.

The irritation upon the periphery of the phrenic nerve is transmitted by the central ganglion to neighboring sensory nerve roots, especially to the shoulder as the principal part of the phrenic nerve arises from the fourth cervical root. Oehlecker attaches significance to the motor part of the phrenic nerve. Following the suggestion of St. Cruz, he divided the phrenic nerve in cases of the lower part of the lung which, on account of pleural adhesions, collapse of the lung cannot be obtained. He performed the phrenicotomy in three cases and gives details of the technique. He does not believe that the side reactions incident to the Kulenkampf pleural anesthesia, as described by Siervens and others, are due to irritation or paralysis of the phrenic nerve.

II. SCOTLAND.

fracture a ischemic contracture involving the second, third, fourth and fifth fingers act. In mid-position of the hand almost complete flexion of the fingers was present, which increased with dorsal flexion. (well attempted) perform free transplantation of the muscles which still contained their nerve supply. At the operation the forearm fascia was carefully opened and the flexor digitorum profundus palmaris contracted the flexor digitorum profundus marked and the profundus very marked, fibrous degeneration, so that the kind graded beneath the muscle cut. All the flexors were severed completely. The tendinous part of the fingers relaxed and could be straightened. In the defect 5-6 cm long the following muscle pieces were implanted: the upper end of the sartorius into the flexor profundus; that part of the external oblique belonging to the tenth in front of the nerve to the sublimis. The transplanted nerves supplying the muscles were implanted into the medullary nerves after stimulation to determine the presence of motor fibers. The fascial defect supplied from the fascia lata. Under after treatment ordering: fingers with flexion and in fact injured during the four months had progressed so that the extended fingers could be flexed to touch the palm of the hand and finally the entire action of the fingers returned.

The result could not be stimulated the lengthening of the muscles then after a considerable and as expected occurred only after several months. On the other hand the transplants could not be retained if motion as the electrical stimulation never used a isolated situation of the transplants. According to the experiment conducted by the author it is highly probable that the transplant because not a large extent and the caused that fact in fact the contraction processes caused marked stimulation and regeneration of the remaining muscle tissue and also probably of the transplanted tissue. The method of free muscle transplantation such as superior the resection method of Henle on Mikulicz and the recently published operation method of Klapp.

Stallier. The Operative Treatment of Lame Feet (Reprint of Operative and Radiological) Zentralblatt für Chirurgie, 1914, 8.

Stallier. Zentralblatt für Chirurgie, 1914, 8.

I operate on the paralytic paralysis of the soleus muscles. Stallier uses the flexor digitorum profundus on the inner side of the foot, the posterior or powerful and the flexor digitorum profundus on the outer side. The great toe on the outer side be used the peroneus brevis and not the longus as the latter is the antagonist of the flexor digitorum profundus. After isolating both tendons

he carries them through a hole made in the calcaneus to the medial and lateral side and draws them taut so that the foot rests in plantar flexion. If then cut the central end of the flexor digitorum profundus to the tendon of the peroneus brevis, and the central end of the peroneus brevis to the tendon of the flexor digitorum profundus so that he obtains a muscle with two heads. The tendon is then shortened by folding it upon itself. The foot is fixed in plantar flexion for four or five weeks.

II. Arthrodesis of the talocalcaneal joint in paralytic feet. The distal phalanx of the talocalcaneal joint occurs either a varus or valgus position of the foot and not in the talocalcaneal joint which forms broad roll. Müller uses the Chopart and talocalcaneal joint by doing a resection of the cartilages. If thus obtains a foot which in its posterior part is quite firm, the talus, calcaneus, navicular and cuboid bones then form a firm body mass, pronation and supination being excluded. The foot can develop normally. (Kernitz).

Yedova. A procedure for the Amputation of the Femur for Malignant Artificial Leg (Amputation of the Femur for Malignant Artificial Leg) Zentralblatt für Chirurgie, 1914, 8.

In the case of the lower limb residual pressure the horizontal is sought for. The osteoplasty or fusion of the medullary canal and the articular mobility of the joint parts between the bone and the residual limb are of great importance. Different methods of obtaining this resistance were studied, especially by the author.

I. The operation of the surface of the bone is protected by turning back the patella and holding it in place by suturing it to the flexor tendons (Kocher's method). The author believes that the stump could be much more serviceable if a movable osteocutaneous flap were placed below the bone and being made movable by the flexors and extensors of the leg.

Instead of removing the patella cartilage as Gritti does Yedova leaves the patella intact. He makes new articular surface for the femur by transplanting ailage-covered bone from the condyles and trochanters of the body stump. To do this transplantation usually the two pieces must be cut exactly perpendicularly and the femur cut obliquely from before back and the patella is then reflected over the stump as the Gritti operation.

The author has tried the technique only once and has been able to follow it for only a short time. It is, however, is greatly improved by the good location of the plastic flap, the persistent mobility of the patella and the good preservation of the muscles and tendons. (Kernitz).

ORTHOPEDIC SURGERY

DISEASES AND DEFORMITIES OF THE SPINE

Henderson The Operative Treatment of Tuberculous of the Spine *St Paul M J* 9 3, xv
177 By Surg. Gyroc & Obst.

A brief résumé is made of the conservative treatment and the principles underlying it. The author refers to the importance of securing speedy bony ankylosis in any tuberculous joint. This is the object of the treatment in tuberculous of the spine. The technique of the Hibbs and Albee operations is described. Any operation which will hasten the cure in these cases should be looked upon with favor.

In 93 there were 35 cases of Pott's disease seen in the Mayo Clinic. Of these 6 were operated on. The Hibbs operation was used in three and the Albee operation in three. The age of the oldest patient operated on was 4, and that of the youngest, 3. The carrying out of support by braces after the operation was just the same as if no operation had been performed. Three of the patients were cases not controlled by conservative treatment prior to operation. Their course since operation has been one of steady improvement. Recumbency on a Bradford frame for at least one month after operation was insisted on. Following this, the use of a Taylor brace as required.

A detailed report of each case is given. It is stated that the report is essentially preliminary but the results are encouraging.

MALFORMATIONS AND DEFORMITIES

Lindoff The Open Reduction of Congenital Hip Dislocation by an Anterior Incision. *Am J Orth. Surg.* 9 3, x, 438. By Surg. Gyroc & Obst.

The author describes a method for the reduction of congenital luxations of the hip in those cases in which manipulative treatment has failed, or has been followed by more or less complete relapse. The causes for these failures the author seeks in the pathologic anatomical relations of the congenitally dislocated hips, and his technique is designed to overcome these difficulties. His findings would show that although the head may be so manipulated that it is placed in position upon the acetabulum, when the thigh is in extreme abduction and outward rotation, there are strong forces which act to relax the femoral head when the position of abduction and inward rotation is approached. These forces would seem to be in the tension of the very strong upper and lateral parts of the joint capsule, and the tension of the ilio-psoas, when the head is placed in its new position.

These factors, combined with the flat acetabulum and tissues forced under the head by manipulation cause the relaxation when abduction is attempted, and would, in certain cases at least, prevent firm anchorage.

The chief steps in the operation follow. With the patient on his back and the pathological thigh at right angled abduction, an incision is made parallel to the axis of the femur from Poupert's ligament about 5 cm. downward on the lateral border of the abductor longus, leaving the pectineus and great vessels on the medial side. The exposed capsule is incised, and the tendon of the ilio-psoas is separated from the lesser trochanter and retained for later lengthening. The incision in the capsule exposes the acetabulum with the pathologic limbus and infolded membranes lying in front of the head. Incision of the isthmus and the limbus will allow the head to correctly enter the acetabulum but adduction will produce relaxation. An incision of the lateral and upper parts of the capsule along the inter trochanteric line permits a position of 45° abduction and inward rotation without relaxation. With the head in this position, the capsule is sutured as far as possible the ilio-psoas attached and the wound closed. In the author's cases plaster of Paris splint maintained this position for eight weeks when the patient was allowed to walk with a high shoe under the well foot.

The theoretical question of the weakness of the capsule by extensive incision and incomplete closure is considered, but the practical results would seem to show that a compensatory fixation follows the operation.

In the three cases cited in the paper good results have followed. All were relaxed cases, but following the open operation the reduction has been maintained in no case, two years in another, one year; and in the last, nine months. Some antetorsion has followed in all the cases.

The author concludes from his experience that this method best deals with capsule and muscle tension described above, and that some method of deepening the acetabulum and strengthening the capsule would still further improve the results of the reduction.

W W FLETCHER.

Campbell The Causation and Treatment of Deformities Following Anterior Poliomyelitis. *Edinb M J* 9 3, x, 301.

By Surg., Gyroc & Obst.

This paper in two parts, takes into consideration the etiology of deformities in infantile paralysis as well as the means at our disposal for the prevention, amelioration and correction of deformities which remain as result of this disease. The author divides the etiological factors into two classes.

1. The *trophic or nutritive deformities* which comprise those which occur as a direct result of the complete destruction of the ganglion cells by which is cut off the trophic influence to the part.

2. The *preventable deformities* which appear any time after the paralysis. These are not due, except indirectly to the paralysis but are brought about

DISEASES AND SURGERY OF THE SKIN AND APPENDAGES

Davis Excessive Thickening of Thiersch Grafts Caused by Component of Scarlet Red (Amidoazotolool) *Bull. Johns Hopkins Hosp.* 93, xiv 73 By Surg. Gynec. & Obst.

In the first place Davis states that he is fully convinced of the power of epithelial stimulation of certain of the organic coloring matters, namely scarlet red, soudan III, azo-dolen, pellidol, etc., when applied locally to granulating wounds. During the past few years number of enthusiastic articles have been published by well known investigators on the satisfactory use of these substances. These papers almost uniformly report splendid clinical results in hastening the healing of sluggish granulating wounds of varying etiology and in every situation.

The use of these coloring matters has also been objected to by some on the ground that there might be the possibility of producing epithelial overgrowths having malignant characteristics. Davis states that the consensus of opinion, deduced from experimental and clinical work, is that such danger is not great. However he sounds a note of warning against the indiscriminate use of these substances by inexperienced persons, and he reports a case in which there was an overgrowth of epithelium following the use of amidoazotolool in ulcers due to burns in which Thiersch grafting had been employed. The patient has been under observation for over two years and half since his discharge from the hospital and there is no sign of malignant degeneration anywhere. The skin, however shows distinct overgrowth of epithelium of pebbly formation.

GROVER E. BERRY.

Sutton The Occurrence of Cancerous Changes in Benign New Growths of the Skin. *Am. J. M. Sc.* 93, vi 89. By Surg. Gynec. & Obst.

The author supports the view of McDonough, who has made a study of the skin from the eyelids and the naso-facial grooves, and who thinks that all new growths of these regions are atavistic. The author reports two cases in support of his views.

The first case is that of a woman who for about thirty-five years had had warty growths the varying in size from millet-seed to an English walnut, which gradually increased in number until in 1906 she had more than seventy distributed asymmetrically over her face and chest. One was sectioned and found to be typical acanthoma decodes cysticum of Brooke. One year ago a small cystic tumor appeared at the inner canthus of the eye, which in the course of a few weeks broke down and extended peripherally. Despite treatment clinically it could not be distinguished from epithelioma. The second case is the daughter of the woman whose case is reported above. In 1905 she noticed some small flat-topped moles upon her forehead, which were pink in color, painless, irregularly distributed and slowly increasing in number. They remained stationary after attaining the size of a grain of wheat, except one located upon the right cheek which broke down in January, 1907 and as excised. It was found to be typical of rodent ulcer. Practically all of the other tumors have been removed by Fowey's carbon-dioxide snow.

Tumors so closely allied in histological structure and origin occurring in mother and daughter point at least to a clinical relationship between acanthoma decodes cysticum and rodent ulcer. II A. FORM.

MISCELLANEOUS

CLINICAL ENTITIES—TUMORS, ULCERS, ABSCESSES, ETC.

Sykoff and Neufkoff Malignant Tumors from the Biological Standpoint (*Die biologischen Neoplasmen vom biologischen Standpunkt*) *Neuwege u. Med.* 93, vi 65. By Zentralbl. f. d. ges. Chir. I. Grosse.

Three general biological laws may be set down. Carcinomata occur during old age and sarcomata during youth. In some species the tendency for epithelial formation is greater while in others connective tissue tumors prevail. 3. There are certain animals in which malignant tumors do not occur at all, as sheep, mules and geese. 1. Explanation of the first law has several biological facts recited. The temperature of the animals plays a rôle in mammals with low body temperature epithelial tumors develop more easily. In birds, however, which have body temperatures of 44-45 degrees connective tissue tumors are more prone to develop. On the

other hand, embryonal rests, variations in metabolism, and the lowering of oxidation processes also play an important rôle.

The present investigations have been conducted in regard to the oxidation ferment of tumors in general, and in malignant growths in particular. The ferments are classified into katalases, peroxidases and oxidases. The author then gives detail his method and the results of his investigations.

He carried out a total of 100 experiments and came to the following conclusions. Peroxidase is decreased in cancer cells and increased in sarcoma cells. Katalase is decreased in cancer cells but not in sarcoma cells. 3. The degree of decrease and increase is apparently in relation to the maturity and malignancy of the new growth. 4. The nuclear substance of the cancer cell is changed. 5. Electrochemical investigations make it probable that are dealing with alkali product in the cancer cell.

and lith and products in the sarcoma cell. 6 The usual relation between nucleus and protoplasm is disturbed in the cell of malignant new growths. 7 The cells of carcinoma and sarcoma are differentiated by their chemical and biological characteristics not only from the cells of normal tissues but also from each other. *Summary.*

Nowell. An Etiological Factor in Carcinoma and Its Possible Influence on Treatment. *Boston M & S J*, 93, April, 1934. By Surg. Gyner. & Obst.

For more than a year the author has been investigating the etiology of carcinoma. While the results are not final, he reports the facts as they are at present. The experiments have been carried out with great care and each has been accurately controlled.

The author states that it is a well known fact that carcinoma develops in the waning years of civility. At this time there is a marked metabolic change going on synchronously with the retrogressions. With diminution of the metabolic there is a similar decrease in the excretory functions. As long as the change in one parallels the other the equilibrium of earlier years is maintained but through some cause the excretory function suffers more rapid impairment, an accumulation of waste products in the system must inevitably result. Such an accumulation operates unfavorably on the general organism and possibly might produce in a given group of cells morbid civility thus forming other and deleterious wastes. Further should some extraneous cause operate to produce waste matter in excess of the impaired eliminative machinery the result would be the same.

In this connection the author brings out the fact that it is conceded by many that malignant growths are primarily of traumatic origin. Traumatism here is used in the broadest sense to mean the filling of a gland causing mechanical pressure, the formation of scar tissue in short, anything that tends to produce irritation. Wherever there is injury nature rushes to the front, greater cellular production takes place the extent depending on the health of the individual. If however the control of this production is biocular the increase may be so great as to cause pressure which, in turn, breaks down the surrounding tissue by affecting the blood and nerve supply. Under certain conditions these degenerative changes may result in further production of deleterious chemicals. As it has been established that certain waste products have decided action on the inhibitory centers, it is reasoned that in the above condition cellular production might be subject to constantly decreasing control resulting in constantly increasing velocity of growth. Thus directly through the impaired elimination of normal waste, or indirectly by the formulation through exogenous causes of abnormal waste, groups of cells might be excited to pernicious civility. Thus, in fact, might be productive of other deleterious wastes through which the control of the nerve centers regulating

cell growths might be furiously affected and the exercise of their function inhibited. Finally such inhibitory effects would possibly show progressive characteristics, as the influence would propagate its own cause.

The author states that if this theory of the origin of carcinoma is correct, then the tumor or the tissues undergoing these pernicious changes, should contain the toxic substances responsible for their continued growth and propagation. A failure to isolate such substances would not wholly prove their absence, as they might readily be compounds of such intense toxicity that the observed effects could be produced by quantities far less than could be detected by any chemical means. If however appreciable amounts of the toxine or toxins are present they should be susceptible of isolation. It is along this line that the author has conducted his experiments.

Briefly he uses the following procedure in isolating the toxic substance from the tumor tissue after it has been proven malignant by clinical and histological findings. The freshly excised growth was carefully freed from fat and extraneous tissue cut into small pieces and digested in water at 60 to 70 degrees hours. The solution was filtered and the filtrate acidified and boiled. The soluble proteins were thus removed. The protein-free filtrate was exactly neutralized and evaporated to dryness. This was carefully extracted with pure alcohol and the extract after the removal of the alcohol by distillation was repeatedly treated with ether. The residue was then dissolved in water strongly acidified and again thoroughly extracted with ether. The extracts were then collected and the solvent removed by distillation. The residue was dissolved in water rendered alkaline, boiled for half an hour and again filtered. On spontaneous evaporation, long white needle-shaped crystals separated. These were purified by repeatedly washing in water. The crystals in the purified form were the basis on which Nowell's conclusions were drawn. The exact nature of the crystals has not been determined. As they have been freed from all organic life any results which may be obtained by their use must be referable to the inherent chemical nature and not to the presence of organized life in any of its manifested forms. All the solutions used were carefully sterilized.

The author conducted many experiments with the rabbit and guinea pig. The results are fully described. It comes to the following conclusions.

A procedure has been developed whereby a substance or substances may be isolated from carcinoma, the method precluding the presence of organic life in the end product.

This end product has been shown to be of a highly toxic character.

3. The peritoneal exudate produced by the tal intoxication is far more toxic than the original substance.

4. The tumor substance has been shown to possess not only general but also specific

icit since on injection into rabbits in doses of less than lethal amount it will produce well-defined, well characterized carcinomas the site of the primary lesion being different from and independent of that of the injection.

5 The preparation of the primary lesion is followed by the development of numerous metastatic foci distributed part of the body while the characteristic hexamorphous metastasis.

6 The poisonous tumor preparation has been shown to be characteristic of carcinoma.

7 By the repeated injection of very small doses large number of rabbits has been immunized.

8 The serum from the animals thus immunized possesses the power of antipointing the toxic action of the tumor substance. This has been demonstrated by injections of the serum either previous to or simultaneous with that of the tumor poison. In both cases no effect is observed from quantities of the poison which, if injected alone, would produce a fully fatal toxication.

9 With the same it proves injection of poison and antiserum it has been shown that one part of the latter still effectively neutralizes one part of the former. J. L. C. W.

Ryanoff, M. J. *Leucine and Leucine in the Blood*. (See also 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000).

The article presents a morphological study of myeloma on the ground of three careful examinations. The author describes the occurrence of true metaplasia and myeloma of the bone marrow. Myeloma is considered a disease affecting the bone marrow, producing hyperplasia of the bone marrow cells. The so-called metaplasia is described by former authors ought to be looked upon as pseudometaplasia. The latter is hyperplastic and forms of the lymphoid tissues, but these are below also the internal organs under normal conditions. H. W.

BLOOD

Whipple and Hooper. *Hemoglobin and Obstructive Jaundice: Experimental Studies by Means of the Eck Fistula*. *J. Exp. Med.* 9: 1-503. By Surg. Cyrc and Obs.

In studying the various types of jaundice the authors made use of the Eck fistula. In the animal, hemoglobinous jaundice, labeled red cells are injected intravenously into control and Eck fistula dogs, and the bile is examined at frequent intervals for the time of appearance, relative amounts and duration of excretion of the hemoglobin and bile pigments. The results are in no way influenced by the Eck fistula although the blood supply to the liver is reduced to about 5 percent of the normal. Practically the same results are obtained in normal and Eck fistula dogs when hemoglobinous jaundice was produced by chloroform anesthesia.

Simple obstruction of the common duct combined with an Eck fistula gives rise to a definite low grade jaundice with bile pigment constantly present in the urine. This observation does not harmonize with the view that bile pigments are formed solely from hemoglobin as there is no evidence of more hemolysis in a normal than in an Eck fistula dog. This suggests to the authors that the bile pigment may be formed in part at least from other substances than hemoglobin, and, further, that bile pigment formation may depend in part upon the functional activity of the liver cell rather than upon the amount of hemoglobin supplied to it.

J. F. C. C. C.

Whipple and Hooper. *A Rapid Change of Hemoglobin to Bile Pigment in the Circulation Outside the Liver*. *J. Exp. Med.* 9: 504-521. By Surg. Cyrc and Obs.

The object of this communication is to submit evidence to show that hemoglobin can be transformed to bile pigment when the liver has been excluded from participation in the reaction. To show this the liver was excluded by means of an Eck fistula and ligation of both branches of the hepatic artery. The animal was then injected with labeled corpuscles drawn from its own circulation. These animals died four to six hours of hepatic insufficiency.

In another series of experiments, the liver, spleen, and intestines were excluded and in a third series, the circulation was restricted to the head and thorax. The authors summarize the results as follows:

The intra-circulatory injection of red cells obtained from the same animal and labeled by distillation is similar to certain types of hemolysis which result in hemoglobinous jaundice. This procedure cannot be criticized on the grounds of introducing toxic substances. The hemoglobin circulating in the blood stream is rapidly changed, in part at least, to bile pigment. The change goes on with practically the same rapidity as in the normal circulation, in an Eck fistula animal, and in a dog with Eck fistula and hepatic artery ligation. Moreover the bile pigment formation goes on in a dog whose liver spleen and intestines have been shut out of the circulation, and whose thorax and head circulation. In the last experiments there had been no operative manipulation of the liver and the bile pigment could not have escaped from the liver and have been absorbed by the circulation above the diaphragm for example by the thoracic duct. It is possible that the endothelium of the blood vessels is the agent which brings about the rapid change of hemoglobin to bile pigment. This mechanism probably comes into play when there has been destruction of many red cells with much hemoglobin free in the plasma. The conclusion is reached that in dogs, at least, hemoglobin can be rapidly changed to bile pigment in the circulating blood without the participation of the liver.

J. F. C. C.

Weber Intravenous Injection of Small Quantities of Human Blood for the Treatment of Severe Anæmia (Über Intravenöse Injektionen kleiner Mengen von Menschenblut bei der Behandlung schwerer Anämien) *Mitsch. med. (Kaiser)* 9 3 12, 307 By Zentralbl. f. d. allgem. Chir.

During the last four years forty-six intravenous injections were given to eighteen patients at the medical clinic at Gießen. In order to avoid untoward symptoms, the blood was kept for twenty-four hours in the ice-box. The dosage was 5 ccm. and was given repeatedly. Larger quantities cause stronger reactions, such as an increase of temperature, chills, quickening of pulse and breathing. Fifteen cases were treated with combined injections of serum and arsenic. The results were good. Three cases which are treated only with the injection of serum are reported in detail.

An extraordinary improvement of the general condition and the blood occurred in cases of pernicious anemia, while in the third case of severe anemia only the general condition improved and the blood did not show any marked improvement. *Worm.*

Von Sear Employment of the Bloomberg Tube in Cases of Hemorrhage (Über Brauch der unteren Körperhohl.) *Ergeb. d. Chir. u. Orthop.* 9 3 74. By Zentralbl. f. d. ges. Chir. Grenzgeb.

The author analyzed 400 cases in which the Bloomberg tube was employed and comes to the following conclusions: (1) The small intestine adapts itself very easily; the colon however is always compressed in its ascending and descending parts, hemorrhages and contraction scars having been observed frequently in autopsy. In non-fatal cases mucous diarrhoea and hemorrhage have been observed commonly due to mechanical injury to the walls of the bowel. (2) In the urinary system compression of the ureter is most important; the kidneys usually lying below the point of application of the tube. Transient retention of the urine occurs, but permanent injury of the kidney does not result, although in one fatal case due to anuria occurred following the application of the tube for 34 of an hour. (3) The advantage of the tube lies in the compression of the aorta and vena cava anterior to the third lumbar vertebra. (4) Injury to the suprarenals as observed in the human, but more frequently in animal, experiments. The fatal case due to anuria showed fresh areas of fat necrosis in the pancreas. Indirect injury to other organs may occur such as sudden death due to cardiac dilatation accident to sudden changes of blood pressure. In cases of broken compensation the danger is still greater. On account of the severe pain, anesthesia is necessary. The indications for and against the procedure are given. The Bloomberg tube should not be employed in every case of hemorrhage but only in selected cases and for vital indications. *Horn.*

Foote Arrest of Hemorrhage and Treatment of Wound with Coagulin Kocher Foote (Über die neue Blutstillungsmethode und Wundbehandlung durch das Coagulin Kocher Foote) *Cor. Bl. f. schwed. Ärzte*, 9 3, 211 385. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Many theories explaining the origin of blood coagulation are fully discussed. They all coincide in the following: Two or three elements combine with each other to form the active agent causing coagulation. As soon as this occurs coagulation begins in the presence of sodium salts. To prepare reliable styptic Foote attempted to isolate one of these active substances from blood-plates. By fractional centrifugation he extracted a liquid from blood discs which were sterilized by boiling. This substance which accelerates and increases coagulability is termed coagulin Kocher Foote. The bleeding surface is sponged and the coagulum applied to it with record winge. On the basis of 77 operation reports, coagulin is credited with causal immediate hemostasis, which is of special advantage in bloody operations, but also of possessing a secondary action which prevents secondary hemorrhages.

In conclusion Foote discusses the possibilities of the remedy. He believes that connection with the usual methods of treatment it may be of decided advantage in post-partum hemorrhages due to uterine atony, placenta previa and abortions by producing a rapid and lasting coagulation. Coagulin, which is manufactured by the Gesellschaft für chemische Industrie in Basel has not yet been introduced in commerce as it is being still further subjected to tests in the surgical clinic at Bern. *Baxter.*

Schreiber The Checking of Internal Hemorrhage by Means of Intravenous Injections of Grape Sugar (Über Stillung innerer Blutungen durch intravenöse Traubenzuckerinjektionen) *Therap. d. Gegenw.* 9 5, 17 95. By Zentralbl. f. d. ges. Chir. Grenzgeb.

Schreiber by means of intravenous infusions of about 200 ccm. of 5-20 per cent solution of grape sugar as he checks gastric hemorrhages as well as hemorrhage in typhoid cases. He describes the method as being similar in effect to the action of Veale's intravenous injection of hypertonic salt solution and sees in the grape sugar injection a definite advantage on account of its nutritive value.

VON DEN VELDEN.

Frosch Hemorrhage from the Axillary Artery Three Months after Trauma; Ligation of the Artery; False Volkmann's Ischemic Paralysis (Hémorragie foudroyante de l'axillaire trois mois après un blessure, ligature de l'artère; fausse paralysie ischémique de Volkmann) *Rev. méd. de l'Est* 9 3, 219 24. By Journal de Chirurgie.

The author reports the case of a boy 14 years old who was injured in the axilla by a fragment of wood in August 9. There was severe hemorrhage

which ceased spontaneously. Several days later physician was consulted regarding an abscess which had developed in the axilla and opened spontaneously discharging a piece of wood. A fistula persisted and from time to time there were slight hemorrhages preceded by severe attacks of pain. After entering the hospital the fistula was irrigated regularly and an X-ray picture was made which showed no changes about the abductor.

November 17th, there was more severe hemorrhage than usual preceded by very severe pain, and on the 14th another copious hemorrhage. The child was chloroformed, the axilla opened and a suppurating pocket found which there was piece of wood 3 by 1 cm. Blood was coming in spurts from the axillary artery but the hemorrhage was stopped by pressure on the subclavia. On the 15th the pressure was removed and the hemorrhage did not recur until the 16th, when it was very severe. The axillary artery was ligated below the small pectoral muscle under the clavicle.

Serum was injected as the child was extenuated, the pulse gone and the arm cold. This coldness persisted for three days after which its temperature became normal. The arm was painful to ten days and paralysis of the flexor and tensor muscles followed. The flexors rapidly regained their function but the paralysis of the extensors remained.

This made it appear to be Volkmann's ischemic paralysis following ligation of the axillary artery. As a matter of fact there was only radial paralysis and the contracture was due to lack of action of the antagonistic muscles. The fact that the thumb and fingers could be passively in hyperextension proves it as this is impossible in ischemic paralysis. From the electrical examination it seems that the radial paralysis will be cured. J. Dwyer.

Beuren. Traumatic Venous Thrombosis in the Upper Extremity (Die traumatische Venenthrombose der oberen Extremität). Deutsche med. Wochenschr. 9: 3, 1913, 997.
By Zentralblatt f. d. ges. Chir. 1. Grossegeb.

Traumatic venous thromboses occur more commonly the arm much rarer in the lower extremity. The general practitioner sees these cases oftener than the surgeon. The clinical picture is not generally known, and is frequently taken for muscle injury, muscle inflammation or neuritis. The condition occurs commonly after an indirect injury to the arm, even though mechanical chemical or infectious injury to the wall of the vein did not take place. The onset is more or less sudden with closure of one of the large veins. The trauma may be very slight frequently not greater than ordinary muscular exertion.

There have been only seven cases of traumatic venous thromboses of the upper arm published. After severe muscular action the signs of venous stasis appear. A compensatory circulation in time develops, due either to absorption of part of the thrombus or to the establishment of a collateral

circulation. The return of function of the arm depends more or less on the re-establishment of the circulation. Etiologically the condition is due to accumulation of blood platelets and thrombogenesis as a result of injury to the vein and interference with the blood stream. Even in the axillary vein it seems possible that thrombosis formations can occur as a result of severe muscular strain.

In regard to the prognosis is variable, especially if the thrombus is not disturbed. Embolism has never been observed. The prognosis is so far as restitutio ad integrum is concerned is decidedly bad, as the collateral circulation is usually insufficient. Venous stasis occurs, which is easily aggravated, and which interferes with the working capacity of the arm to a greater or less degree. Dr. Axen.

M. Jor. The Wassermann Reaction in the Johns Hopkins Hospital. Bull. Johns H. Hosp. 9: 3, 1913, 15.
By Surg. Officer & Obst.

The Wassermann reaction, as Major states, has been extensively employed in the Johns Hopkins Hospital in the past four years and their experience with it confirms the results of most of workers as to its reliability and specifically as a diagnostic procedure. The first report upon its use in that clinic was made in 1910 and the present report includes the cases from September 1911 to August 1913, in which the reaction was employed. In all 300 patients were examined the great majority of whom were medical cases. This number includes great variety of diseases ranging from outspoken cases of syphilis to neurotic patients, in whom the reaction was made for the purpose of excluding it. The series includes also a great variety of functional and organic nervous and cardiac diseases, nephritis, diabetes, pneumonia, typhoid fever and gastro-intestinal diseases, and fairly large number of cases of brain tumor.

Of these 300 cases, 30, or 10 per cent gave positive reactions, while 66, or 22 per cent, were negative. Of the cases giving positive reactions, 55, or 83 per cent (nearly 3/4) gave no history of primary syphilis. The percentage of negroes in the above figures is of some interest. The Wassermann reaction was performed upon 185 negro patients, the great majority being cardiac or cardio-renal cases, but including also other more uncommon diseases. Of this number 6, or approximately 3 per cent, gave positive reactions, while 84, or 66 per cent, were negative. When this number is compared with the reactions on white patients, it is seen that 34 per cent of negroes compared with 7 per cent of whites, give positive reaction. This indicates a frequency of positive reactions in negroes twice that of the whites. These figures do not perhaps give sufficient indication of the greater frequency among negroes, since the total number of reactions performed on the sera of colored patients is considerably less than that on whites.

The Wassermann reaction in forty-two cases of aortic insufficiency showed twenty-one, or 50 per

cent, positive reactions. Of the twenty-one negative cases, all but six gave a history of rheumatic fever four of the six showed marked stenocardia, and no patient died of an acute mitral endocarditis.

The reaction was positive in twenty-one cases of aneurism, mostly of the aortic arch. Twenty-one, or 95 per cent, gave positive reactions. The patient who gave a negative reaction was a negro who had a definite history of syphilis seven years before. His serum was tested one month later after antiluetic treatment with the same result.

In 7 cases of tabes the Wassermann reaction showed eleven, or 64 per cent positive. Three of these patients gave a negative serum reaction, while the cerebrospinal fluid was positive and three of the patients having positive serum reactions showed negative reactions in the cerebrospinal fluid. Eight of the patients admitted luetic infection nine gave no history.

Thirteen cases of general paresis were tested. Twelve, or 90 per cent (this number were positive). The cerebrospinal fluid was positive in every case examined (seven) while the blood was negative in seven cases. Nine of the 13 gave a luetic history.

The Wassermann reaction was done with the serum of 59 cases of various types of brain tumors, including gliomas, hypophyseal tumors and cysts, cerebellar tumors and cysts, and tumors of the spinal cord all were negative results. In seven of these the test was negative both in the cerebrospinal fluid.

The author summarizes his study as follows: The past year's experience with the Wassermann reaction in this clinic confirms our faith in the reliability and specificity of this reaction. The only other diseases in which positive reactions have been reported (trypanosomiasis, yaws, scarlet fever, leprosy and possibly malaria) are either so easily diagnosed or so uncommon here as to cause no confusion. Wassermann states that he and his assistants have performed over 1,000 examinations and never yet made a false diagnosis. While the number of patients in our series is much smaller we feel that we have not made a false diagnosis the past year when the diagnosis of syphilis was placed after the names of 39 patients who showed positive Wassermann reaction. GEORGE E. BERRY

BLOOD AND LYMPH VESSELS

O'Day Arteriography. *Westmed Med.* 9:5 34
By Surg. Gynec. & Obst.

There are two important principles to be observed in order to suture blood vessels successfully: first, perfect apposition of serosa to serosa, and second, that no trauma be inflicted upon that part of the vessel surface which is to come in contact with the blood stream. The methods of P. yr, Carrel and Murphy do not neglect these principles, yet the author feels that since the occasion of vessel suture in the hands of the everyday surgeon comes only in emergency cases and since he may not be able to

successfully master the technique evolved by these men, he may follow a simpler procedure, as the author has done in one case with success. In reuniting severed arteries, no very great difficulty is to overcome the retraction of the stumps.

The technique used with success by the author in his one case and subsequently bettered by animal experimentation is as follows:

Free the stumps and wash away all debris with normal salt solution. Apply rubber-covered Crile clamps to either stump and if filling and pulsation occur just back of proximal clamp the operation may be begun. Never allow the field to become dry but keep well moistened with normal salt. The suture material may be either chromicized so-day catgut or preferably Pagenstecher linen, the size ranging from No. 00 to No. 1 depending upon the vessel.

Four even lengths of suture are cut and with the assistant holding one, one of the others is tied to it in the exact middle and the other two at distances representing one-fourth the vessel circumference. The assistant now passes his suture to which the three are tied around the proximal stump to sufficient distance from its end to insure the turning back of cuff adequate to good serous apposition, and makes it secure lightly constricting the vessel all.

The cuff is now turned back and fixed by fan-shaped sutures made with needle on the free ends of each of the above placed sutures. The distal stump is then made to reenact the cuff after the method of P. yr and a running stitch engaging a good bite is then carried around sewing the distal stump well to the margin of the cuff. If the vessel be large, circular tie may add an extra reinforcement otherwise this completes the work.

The distal clamp is removed first and then the proximal clamp is gradually released. The sheath is sutured over the reunited vessel. The ligature will not cut into the intima unless too great constriction has been imposed. Exudate soon covers all the sutures.

FLORENCE B. KIRBY

Swetchnikoff. The Action of Adrenalin upon the Peripheral Vessels (Über die Adrenalin-Wirkung auf periphere Gefässe). *Deutsches St. Petersburg*, 9:3. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author studied the action of adrenalin upon peripheral vessels according to the newer method of measuring vasomotor influences devised by Krawkoff and Mäkelä, and comes to the following conclusions: (1) gradual variations of blood pressure do not influence the action of adrenalin materially with very weak adrenalin solutions and very high vascular pressure, dilatation is observed with sudden increase of pressure a dilation of the vessels is observed regularly which occurs also following an infusion of Locke's solution even upon addition of adrenalin, the action being all the more pronounced when the action of adrenalin is weakest. Rhythmic variations of vascular dilation are observed due to

Bylin Kolosowsky Drainage by Means of Thread According to Handley in Case of Elephantiasis (Ein Fall von Faden Drainage nach Handley bei Elephantiasis) *Verhandl. d. 11. Internat. d. allg. Chir.-Kongr. St. Petersburg* 9, 3, 224. *B. Zentralbl. f. d. ges. Chir. u. Grenzgeb.*

The author reports a case operated according to the Handley method. The patient before operation suffered from frequently recurring ulcerations and pains in the diseased leg. He was able to lift the limb only with the aid of his hands. Since the operation he has been entirely well. It is noted that the circumference of the lower third of the leg has decreased ten cm. and the patient is able to walk without difficulty. The mushroom-like growths have entirely disappeared. *Schilling.*

POISONS

Davis *Correlations in the Streptococcus Group.* *J. Infect. Dis.* 9, 3, 21, 246. *B. Surg. Gynec. & Obst.*

The hemolytic growth on blood agar, capsule formation, solubility in bile agar, reactions pathogenic properties in animals and naphthylar reaction are considered in discussing the relationship existing between group members of the streptococcus group. These various properties indicate that a gradual transition occurs from one member of the group to another and it is difficult to impossible to clearly define the sub-groups. Experiment is cited pointing definitely to transformation of one member into another. This phenomenon undoubtedly takes place to certain limits and appears to be not uncommon.

SURGICAL THERAPEUTICS

Woll *The Action of Collargol Enema in Septic Processes (Über die Wirkungen von Kollargol-Enemen bei septischen Prozessen)* *Deutsche med. Wochenschr.* 9, 3, 2023, 244. *B. Zentralbl. f. d. ges. Chir. u. Grenzgeb.*

As the intrarectal injection of collargol is complicated by considerable difficulty the author injected 6 per cent solution (50 cc.) per rectum. The first patient for whom he used it as a soldier with definite sepsis. Intravenous infusions of salt solution, 4 L. daily three times with 1 gm. antipyrin added, did not affect the condition at all; neither did the subcutaneous injection of iodine in 5 per cent solution. Later 5 cc. of 1 per cent solution given intravenously according to Kausch also proved ineffective and resulted in thromboses of the basilic vein. Thereupon 50 cc. of 6 per cent solution of collargol was given per rectum every fifth day and the desired effect was obtained. Temperature dropped until complete recovery resulted. A total of eight such injections were given. These injections caused absolutely no mucous membrane irritation or other unpleasant symptoms. *Wachsmann.*

McKracken *The Treatment of Anthrax with Salvarsan (Zur Salvarsanbehandlung des M. Brand)* *München. med. Wochenschr.* 9, 3, 16, 459.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The patient had severe malignant pustule on the neck with definite constitutional symptoms. The author cauterized the pustule and then administered 6 gm. salvarsan intravenously. The local and general symptoms receded rapidly, the temperature becoming normal within twenty-four hours. He attributes the result obtained to the salvarsan infusion. *H. Kraus.*

ELECTROLOGY

Know *Dosage Measurement and Control of the X Ray and Other Agent in Therapeutics.* *Internat. J. Surg.* 9, 3, 21, 90. *By Surg. Gynec. & Obst.*

In considering dosage as applied to X rays it must be limited that none of the factors involved can be constant: the vacuum of the tube, the intensity of the rays, or the resistance of the receiver. The patient. Many mechanical devices have been invented to test the penetrating powers of the rays, but as a general rule the safest method to follow is to depend upon the results obtained to govern the subsequent dosage. As a rule the current should be passed through milliammeter on its way to the tube. A current of one milliampere may be allowed to flow through the tube at a distance of 14 inches from the surface to be irradiated for a period of ten minutes. Its safety. This treatment may be repeated on alternate days. When the induction is making no longer exposure may be divisible. A necessary treatment can be secured from the use of the high-frequency current. This current has been shown experimentally to inhibit the action of the X rays upon the skin and to prevent dermatitis. The use of the two rays together is especially indicated in the treatment of malignancy of the conditions due to the pyogenic organisms. *J. H. Smith.*

Dessauer *Physical and Technical Principles of Deeply Penetrating X Ray Treatment (Physikalische und technische Grundlagen der Tiefenbestrahlung)* *Deutsche Gesellschaft f. Gynäk. Heilk.* 9, 3, 214.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author by series of experiment demonstrated that the formation of the so-called hard or penetrating rays is dependent not only on the tube but also upon the manner in which it is operated. The current fed into it will use up that tube equally but the number of hard rays produced will vary under different conditions. It is of no advantage to increase the current through the tube beyond normal values; the important point is to operate the tube in such manner that the largest number of hard rays result. This can be accomplished in the following manner: (1) By using not too high

vessel walls of the uterus during pregnancy. This sign of pregnancy which appears first during the first month is of great importance as it disappears last following abortions. Daels and Doumy state that there exist in the uterine vessel walls syncytial cells rich in chromatin, more or less regularly arranged which differ from the decidual cells.

I two cases of tubal pregnancy which had been resorbed several months previously the author found such elements in the wall of the tube. This contradicts Meyer's statement that normal exochorall invasion occurs two weeks after the expulsion of the foetus. The clinical importance of these cells is that they serve to differentiate between the endometritis following abortions and other forms. In the treatment of that following abortion I which syncytial cells were found by curettage 83.3 per cent were successful, 5 per cent better and 24.9 per cent unsuccessful. In the other endometritis cases treated by curettage there were 3 per cent successful, 43.7 per cent improved and 24.9 per cent successful. The author thinks that all the simple endometritis cases following interruption of pregnancy are curable by curettage.

These syncytial cells do not seem to have any connection with the nourishment of the foetus nor with utilization of maternal waste products. It seems that these aberrant cells have lost their normal function and are in fact benign neoplasms. If the organism is able to combat successfully Daels believes that microscopical examination of the cells of the tube or uterus would serve to substantiate diagnosis of pregnancy by Abderhalden's serum test. J. Doeber

Barnes Results of X Ray and Mesothorium Treatment of Uterine Carcinomas (Über die Erfolge der Röntgen- und Mesothoriumbestrahlung beim Uteruscarcinom) Deutsche Gesellschaft für Gynäk. u. g. May By Serg. Gynec. & Obst.

Skin epithelioma have long been cured by radium. The use of hard filtered rays and large quantities of radio-active substances makes the deep seated and more rapidly growing tumors subject to treatment, 0,000 Kienbock and 5,000 milligram hours and even more have been given. He reports cures.

Squamous cell carcinoma of the portio 1917 X.

Cure Cervix cancer. foul infiltrating tumor 8,000 and 1,000 milligram hours mesothorium. Only scar tissue left. the curette brought nothing away.

3. Carcinoma of the vagina with involvement of the rectum 3,500 and 8,700 milligram hours mesothorium scar tissue where carcinoma was no secretion or hemorrhage.

4. Carcinoma of vagina 3,400 x and 4,800 mg. hours, clinically cured.

5. Carcinoma of the cervix 0,000 x and 5, 20 mg. hours. Callous scar with no secretion.

6. Carcinoma of the cervix 900 and 10,400 mg. hours curette showed nothing.

7 Stinking carcinoma coli 9,350 mg. hours ectropion covered with epithelium operated upon.

8. Large crater-like carcinoma coli 1 24 days 13,350 mg. hours crater closed operated.

9 Large squamous-cell carcinoma involving urethra and neck of bladder, 900 complete cure.

10 Adenocarcinoma of the urethra 800 x and 4,600 mg. hours, reduced to a small ulcer in the urethra still under treatment.

11 Recurrence after total extirpation large ulcer with infiltration exposure aided by action, 3,500 and 4,200 mg. hours complete overgrowth. Skin formation of a scar cavity.

Recurrence after total extirpation and secondary recurrence operated large foul tumor filling the vagina 8 and 5,350 mg. hours. Scar tissue, curette shows no cancer.

All parts of the cancer that can be reached are destroyed and the part is clear. A few cells, with or without extensive scar tissue. Cases 7 and 8 showed cancer still present but they had been treated only 9 and 24 days respectively. To avoid ulceration, very hard rays must be used. Barnes used lead filters. He found two cases which were cured of their cancer but died of decubitus and urinary infections. J. van R. Minnaert.

Döderlein Röntgen-Ray and Mesothorium Treatment of Myoma and Carcinoma of the Uterus (Röntgen-Strahlentherapie bei Myom und Carcinom des Uterus) Deutsche Gesellschaft für Gynäk. u. g. May By Serg. Gynec. & Obst.

The author ascribes to Krong and has shared the credit for the great advance in the radiotherapy of cancer as well as of myoma. Döderlein has been working long and hard and reports exceedingly good results from the use of mesothorium in cancer. The cancer of old people is easiest to influence. One operable case in very early stage, as treated with complete cure. Heart lesion made operation very small. Döderlein presents beautiful microscopical preparations, which prove that his optimism has a firm foundation. The cancer cells are shown to disintegrate at different stages in the treatment, whereas the normal cervical mucosa remains in apparently perfect condition. A selective action of the highly filtered rays for the cancer cells is therefore proven. J. R. Müller.

Kistner A Peculiarly Shaped Myomatous Uterus (Ein myomatöser Uterus eigentümlicher Configuration) Deutsche Gesellschaft für Gynäk. u. g. May

By Zentralbl. d. g. Gynec. Geburtsh. d. Gynaek.

The uterus had acquired the size of an adult's head, the whole corpus being even transformed into myomatous mass of tissue. The only portion still normal was the outermost layer directly below the peritoneum. This was about 1/4 cm. thick and the mass consisted of great number of myomatous nodules. This is the first case of this sort observed by Kistner apart of the fact that he has seen

many hundreds of myomata. The little mucosa that was present showed normal structure. The appendages also were normal except for the peculiar smoothness of the surface of the ovary there being no Graafian follicles and very few corpora albicantia. The hymen was intact and penis-like protuberance projected from the external genitalia. The urethral opening was invaginated and there was no vaginal pouch in the rest of this. The patient was thirty-seven years old, had never menstruated and came to the clinic on account of hemorrhage from the genitals, the result of trauma. Suter

Freund Partial Myoma Operations (Über partielle Myomoperationen) *Deutsche Gesellschaft f. Gynäk. u. G. 3. 11a*
B. Zentralbl. f. d. ges. Chir. Geburtsh. d. Gynaek.

In women approaching the menopause it is frequently possible to relieve menstruation by performing a partial operation which however will be radical in effect. This is an delicate surgery. The author reports new edge-shaped myomectomy including the entire uterus and corpus uteri. The bladder is stripped off the uterus the curved incision extends from the middle of the posterior uterine wall, passes the lateral insertion in the middle of the anterior wall, corresponding incision on the opposite side is made and edge-shaped portion is excised, including all hypertrophied mucous membrane. The defect is sutured in layers. Myomatous nodules are overlooked by this method and large portions of hypertrophied mucosa and os can be removed.

In pure fundus tumors the thor excises the entire uterus by means of circular incision. Menstruation was retained in all cases and became normal. In smaller tumors both operations can be performed vaginally.

Whitehouse Pathology and Treatment of Uterine Hemorrhage *Practitioner Lond. 9 3, 12*
95 By Surg. Gynec. & Obst.

Hemorrhage due to pregnancy and bony or neoplasms is not here considered the author confining his view to conditions where the diagnosis may be less typically set forth. His conclusions are:

1. Treatment of uterine hemorrhage can be rational unless the cause is established. The empirical administration of homeostatic drugs is frequently useless and indiscriminate curetting is dangerous.

2. The menorrhagia that occurs in young girls at the age of puberty is probably due to the association of functionally mature ovaries with deficient uterine musculature. It tends to spontaneous cure and should be treated by rest and, if possible removal of higher stimuli.

3. Hemorrhage in young women may be due to mucous polypus, adenomatous cervix, or bacterial infections of the uterus.

4. A practical method of investigating the bacteriology of the uterus is by the collection of the menstrual blood.

5. Hemorrhages at the menopause are frequently the result of increased arterial tension, partial obstruction or degeneration and fibrosis of the uterus secondary to arteriosclerosis. It is probable that some cases of fibrosed cervix are syphilitic in origin. Treatment must be to reduce vascular tension. Ergot usually fails and it may be necessary to remove the uterus.

6. Faults in the calcium metabolism may be the cause of obscure uterine bleeding, which may be cured by discovery of the cause and the administration of calcium salts. Occasionally the combination of thyroid tissue with calcium is beneficial.

7. In every case of uterine hemorrhage, it is essential to look for a general cause before the local pelvic condition is investigated.

CAREY CULBERTSON

Sehrt The Thyrogenous Etiology of Hemorrhagic Metropathies (Zur thyrogenen Ätiologie der hämorrhagischen Metropathien) *München med. W. 1910 9 5, 66*

By Zentralbl. f. d. ges. Chir. u. Geburtsh. d. Gynaek.

Sehrt investigated twenty cases of complicated metropathies, finding high grade lymphocytosis (30%) and relative neutrophil leucopenia (45-68%) in thirteen. One case which had no lymphocytosis, presented eosinophiles. Coagulation of the blood as increased in 9 cases (8-4 min. test against 9-15 min. normally). From the analogous blood picture in hyperthyroidism he concludes that the disturbance of the relation between the thyroid and ovary may be the basis for these unexplainable hemorrhages and that many cases of hemorrhagic metropathy are really abortive cases of myxedema. On account of the parallelism of the symptoms of tetany of pregnancy and eclampsia and because of the absence of definite anatomical basis by which these two conditions can be differentiated clearly the author

advances noting the blood picture of eclampsia. The histological findings of Holmstedt who observed kidney changes after thyroidectomy the combination of myxedema and eclampsia (Herrgott, Frahmholz, Jeandelize) the increased coagulability of the blood in eclampsia (Jarvis) lead to the supposition that a relation exists between hypothyroidism and eclampsia. This view is supported by an observation of the authors. The patient was a woman who had had a difficult labor with severe hemorrhages three years previously and who presented the blood picture of hypothyroidism. The labor occurred spontaneously but four-day eclampsia developed.

Kobayashi

Bell The Pathology of Uterine Casts Passed During Menstruation. *Surg. Gynec. & Obst., 9 3, 27, 65*
By Surg. Gynec. & Obst.

This paper is based on some original pathological investigations of uterine casts passed during menstruation. The author states that there are two distinct kinds of uterine casts: (1) True blood casts

GYNECOLOGY

UTERUS

Romeo. A Large Coprolith Enclosing the Uterus and Stimulating Malignant Tumors (D'un volumineux calculo fécale englobant l'utero aménageant néoplasme). *Gaz. d'op. d'obs. Méd.*, 93, vol. 536.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The patient was a woman 3 years of age suffering from dyspepsia for the past three years, increasing anemia, loss of eight (80 kg.). Late in she had burning and pressure over the abdominal region and frequent but small bowel movements consisting of bloody fluid. Numerous diagnoses were made: endometritis, ovarian cyst, inoperable carcinoma of the rectum, etc. The patient was almost cachectic; the small pelvis was filled with a hard tumor nearly the size of a child's head. Uterus was palpable only anteriorly; it was enlarged posteriorly; it was coiled into the tumor. The mass could be palpated from below through the rectum with pressure exerted from above. It was with difficulty removed. The mass weighed 550 gms. and consisted of foul-smelling extremely hard feces. The rectum was tamponed on account of hemorrhage. The next day the tumor was easily palpated, and suppurated at the posterior wall of the vagina occurred. The patient gained in weight rapidly and completely recovered.

The author emphasizes the importance of examining the rectum in all cases of pelvic disease. He also recommends the prophylaxis of bronchitis, but also a frequent accompaniment, and occasionally the etiologic factor of pelvic disease. *Cocconi*.

Wilson. Chorio-Epithelioma Following Hydatidiform Mole and Giving Rise to Intraperitoneal Hemorrhage from Extension into the Right Mesosalpinx. *Proc. Roy. Soc. Med.* 93, 1 Obst. & Gynec. Sect. 23.
B. Surg. Gynec. & Obst.

Wilson's case is that of a woman 30 years old, married 3 years and the mother of one child 18 months old. She suffered from mammary become cystitis for three months following her delivery. The menstrual periods had been regular until 3 months before examination when she became pregnant and went on normally for 6 months. At that time she was seized with bleeding which has continued up to the time of the examination. She has had some vomiting and emphysema abdominal pain. The uterus on examination was large and fairly firm. On curettage hydatid mole the size of the closed fist was found. The patient recovered nicely. At the end of four weeks she complained of an irritable bladder some pain and heaviness in the pelvis along with little blood stained daily vaginal

discharge. Four weeks later abdominal section free red blood was found in the peritoneal cavity with a large dark clot behind the uterus. The uterus and both appendages were removed and the patient was discharged convalescent three weeks later.

In the right fundus of the uterus there was rounded projection, encapsulated, dark red in color, friable and presenting the typical appearance of chorio-epithelioma. This growth projected as a small, polypoid, sessile mass into the cavity of the uterus elsewhere the endometrium was normal in appearance. The tubes and ovaries were healthy but on the posterior surface of the left mesosalpinx a small eroded nodule was discovered from which the free blood in the peritoneal cavity was coming. This also was of the same character as the fundal tumor and as no evidence of a continuity of growth could be demonstrated it was doubtless of embolic origin.

C. D. Housley.

Raspini. Adenomyositis of the Uterus and of the Rectum (Sull'adenomyositis dell'utero del retto). *Gazzetta*, 93, 12, 577.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

After general remarks of the present status of adenomyositis the following clinical history is detailed. A female patient 36 years old, had had abortion followed by severe pains in the lower abdomen, but was otherwise generally healthy. Between the uterus and rectum an immovable tumor was palpated, but the uterus and rectum were normal. This led to the diagnosis of malignant tumor in the recto-vaginal space. The uterus was extirpated with the tumor. Analysis showed that there were numerous hollow spaces lined by cylindrical epithelium. As far as the etiology is concerned the author assumes that the whole process was probably the result of an inflammatory activity and irritation. The possibility of its origin from Müller's ducts cannot be denied. The author believes that cases are not infrequent, which if microscopical examinations of inflammatory processes of the pelvis, peritoneum were made would reveal more frequently the picture of adenomyositis. The most certain treatment is operative removal.

PLAZA

Davis. Contribution to the Study of Benign Chorio-Epitheliomas of the Wall of the Uterus and Tubes (Contribution à l'étude de chorio-épithéliomes bénignes dans la paroi de l'utérus et des trompes). *Bull. de l'Acad. roy. d. méd. de Belg.* 93, 2, 224, 25.
By Journal de Chirurgie.

The author states that Schillek of Strasbourg has shown that there is hyaline degeneration in the

vessel walls of the uterus during pregnancy. This sign of pregnancy which appears first during the first month is of great importance as it disappears last following abortions. Dachs and Downey state that there exist in the uterine vessel walls syncytial cells rich in chromatin, more or less regularly arranged which differ from the decidual cells.

In two cases of fetal pregnancy which had been recorded several months previously the author found such elements in the wall of the tube. This contradicts Meyer's statement that normal exochorall involution occurs two weeks after the expulsion of the fetus. The clinical importance of these cells is that they serve to differentiate between the endometritis following abortions and other forms. In the treatment of that following abortions in which syncytial cells were found by curettage, 83.3 per cent were successful, 5 per cent better and 4 per cent unsuccessful. In the other endometritis cases treated by curettage there were 3.3 per cent successful, 43.7 per cent improved and 24.9 per cent unsuccessful. The author thinks that all the simple endometritis cases following interruption of pregnancy are curable by curettage.

These syncytial cells do not seem to have any connection with the nourishment of the fetus nor with utilization of maternal waste product. It seems that these aberrant cells have lost their normal function and reflect benign neoplasms which the organism is able to combat successfully. Dachs believes that microscopical examination of the walls of the tube or uterus would serve to substantiate diagnoses of pregnancy by Abderhalden's serum test. J. Downey.

Summary Results of X Ray and Mesothorium in Treatment of Uterine Carcinomas (Über die Erfolge der Röntgen- und Mesothoriumbehandlung beim Uteruscarcinom). Deutsche Gesellschaft für Gynäk. Heile 9, 3, May. By Sarg. Gyöck. & Obst.

Skin epithelioma have long been cured by radium. The use of hard filtered rays and large quantities of radio-active substances makes the deep seated and more rapidly growing tumors subject to treatment, 9,000 Roentgen and 3,000 milligram hours and even more have been given. His reports cases.

Squamous cell carcinoma of the portio 49 Cure.

Cervix cancer. Infiltrating tumor 8,700 and 1,000 milligram hours mesothorium. Only scar tissue left the curett brought nothing away.

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Recurrence after total extirpation large ulcer with infiltration exposure aided by incision 3,500 and 14,700 mg. hours complete overgrowth of old formation of scar cavity.

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All part of the cancer that can be reached are destroyed and the part is clean in a few weeks, with or without extensive scar tissue. Cases 7 and 8 showed cancer still present but they had been treated only 9 and 8 day respectively. T. void ulceration, very hard rays must be used. Bismar used lead filters. If found 2 cases which are cured of their cancer but died of necrosis and urinary infections. James R. Meane.

Doderlein Röntgen Ray and Mesothorium in Treatment of Myoma and Carcinomas of the Uterus (Röntgen Mesothoriumbehandlung bei Myom und Carcinom des Uterus). Deutsche Gesellschaft für Gynäk. Heile 9, 3, May. By Sarg. Gyöck. & Obst.

The author ascribes to Kneisl and his school the credit for the great advance in the radiotherapy of cancer as well as of myoma. Doderlein has been working along similar lines and reports exceedingly good results from the use of mesothorium in cancer. The cancer of old people is easiest to influence. One operable case in very early stage was treated.

The complete cure heart less made operation very unsafe. Doderlein presents beautiful microscopical preparations, which prove that his optimism has firm foundation. The cancer cells are shown to disintegrate at different stages in the treatment, whereas the normal cervical mucosa remains in apparently perfect condition. A selective action of the highly filtered rays for the cancer cells is therefore proven. J. R. Meane.

Küster A. Peculiarly Shaped Myomatous Uterus (Ein ungewöhnlicher Uterus myomatöser Konfiguration). Deutsche Gesellschaft für Gynäk. Heile 9, 3, May.

By Zainzki L. d. ges. Gynäk. Geburtsh. d. Gynäk.

The uterus had acquired the size of adult's head, the whole corpus being evenly transformed into a myomatous mass of tissue. The only portion still normal was the outermost layer directly below the peritoneum. This was but 1/4 cm thick and the mass consisted of great number of myomatous nodules. This is the first case of this sort observed by Küster in spite of the fact that he has seen

many hundreds of myomata. The little mucosa that was present showed normal structure. The appendages also were normal except for the peculiar smoothness of the surface of the ovary there being no Graafian follicles and very few corpora albicantia. The hymen as absent and penis-like protuberance projected from the external genitalia. The urethral opening was invisible and there was no vaginal pouch in the rest of this. The patient was thirty-seven years old, had never menstruated and came into the clinic on account of hemorrhage from the genitalia, the result of trauma. SAUER

Freund Partial Myoma Operations (Ober partielle Myomoperationen) Deutsche Gesellschaft f. Gynäk. Halle, 9. u. 10. May
B. Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

In women approaching the menopause it is frequently possible to retain menstruation by performing partial operation which however will be radical in effect. This is advantage over X-ray therapy. The author reports a new wedge-shaped myomectomy including the entire fundus and corpus uteri. The bladder is stripped off the uterus, the curved incision extends from the middle of the posterior uterine wall, passes the tubal insertion to the middle of the anterior wall, corresponds to the middle of the opposite side is made and a wedge-shaped portion is excised, including all hypertrophied mucous membrane. The defect is sutured in two layers. No myomatous nodules are overlooked by this method and large portions of hypertrophied muscle and mucosa can be removed.

In pure fundus tumors the thorax excises the entire fundus by means of circular incision. Menstruation was retained in all cases and became normal. In smaller tumors both operations can be performed vaginally.

Whitehouse Pathology and Treatment of Uterine Hemorrhage. Philadelphia, 1920. 9. u. 10. Oct.
By Surg. Gynec. & Obst.

Hemorrhage due to pregnancy and abortion or to neoplasms is not here considered, the author confining his views to conditions where the diagnosis may be less typically set forth. His conclusions are:

1. A treatment of uterine hemorrhage can be rational unless the cause is established. The empirical administration of haemostatic drugs is frequently useless and indiscriminate curetting is dangerous.

2. The menorrhagia that occurs in young girls at the age of puberty is probably due to the association of functionally mature ovaries with deficient uterine musculature. It tends to spontaneous cure and should be treated by rest and if possible removal to higher altitude.

3. Hemorrhage in young women may be due to mucous polypus, denudation of cervix, or bacterial infections of the uterus.

4. A practical method of investigating the bacteriology of the uterus is by the collection of the menstrual blood.

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6. Faults in the calcium metabolism may be the cause of obscure uterine bleeding, which may be cured by discovery of the cause and the administration of calcium salts. Occasionally the combination of thyroid tissue with calcium is beneficial.

7. In every case of uterine hemorrhage it is essential to look for a general cause before the local pelvic condition is investigated.

CAREY CULBERTSON.

Sehrt The Thyrogenous Etiology of Hemorrhagic Metropathies (Zur thyrogenen Ätiologie der hamorrhagischen Metropathien) München und Würzburg, 9. u. 10. Oct.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Sehrt investigated twenty cases of uncomplicated metropathies, finding high grade lymphocytosis (50%) and relative neutrophileucopenia (45-68%) in thirteen. One case which had no lymphocytosis, presented 2% eosinophiles. Coagulation of the blood was increased in 9 cases (8-4 ml. test against 9-0 ml. test normally). From the analogous blood picture in hyperthyroidism he concludes that the disturbance of the relation between the thyroid and ovary may be the basis for these unexplainable hemorrhages and that many cases of hemorrhagic metropathy are really abortive cases of myxedema. On account of the parallelism of the symptoms of tetany of pregnancy and eclampsia and because of the presence of a definite anatomical basis by which these two conditions can be differentiated clearly the author advises noting the blood picture of eclampsia. The histological findings of Hofmeister who observed kidney changes after thyroidectomy in combination of myxedema and eclampsia (Herrgott, Frühlinholz, Jendelitz) the increased coagulability of the blood in eclampsia (Jarrew) lead to the suspicion that relation exists between hypothyroidism and eclampsia. This view is supported by an observation of the author's. The patient was a woman who had had difficult labor with severe hemorrhages three years previously and who presented the blood picture of hypothyroidism. The labor occurred spontaneously but four-day eclampsia developed.

KORNER.

Bell The Pathology of Uterine Cysts Passed During Menstruation. Surg. Gynec. & Obst., 9. u. 10. Oct.
By Surg. Gynec. & Obst.

This paper is based on some original pathological investigations of uterine cysts passed during menstruation. The author states that there are two distinct kinds of uterine cysts: (1) True blood cysts

of the corpus () endometrial casts. If considers that the blood cast is formed by the clotting of menstrual blood within the uterine cavity. If point out that he has already shown that menstrual blood does not clot normally owing to the ext action of the fibrin ferment by the endometrium, but that when there is menorrhagia the flow is too rapid for this retractant to be effected and consequently the blood may clot either in the uterus when blood casts are formed, or in the vagina. The endometrial casts may be either thick or thin according to the depth of the denudation of endometrium which is brought about by the hemorrhage which strips either the whole or the superficial layers of the endometrium. The latter, these circumstances, is denser than normal owing to the decidual-like change in the cells of the stroma.

Illustrations are given of many menstrual endometrial casts to show the macroscopic and microscopic appearances. One case is of peculiar interest for the author removed the fallopian tubes three years previously. Almost every month this patient passes thick endometrial casts which resemble the macroscopic appearance of early abortion. Microscopically the cells of the stroma show marked decidual-like reaction.

Chisholm Menstrual Mollities: Adult Cases.
J. Chisholm & Gynec. Brd. Emp. 9 3 22, 350.
By Berg, Gyn. & Obst.

Basing her conclusions on a study of 60 cases and upon the previous work by Toller and Kertaban the author has formulated the following:

Among adults the causes of disturbance at the menstrual period are many more than among adolescents.

Passive hyperemia of the pelvic organs appears to be the cause of much local pain. This is referred in the majority of cases to the first day after onset of menstruation.

Unhealthy hygienic conditions and mode of living contribute to lowering the general nervous system so that pain is readily felt and habit of pain at the menstrual period formed.

Nervous symptoms, reflex and vasomotor are often associated with secondary menstrual discomfort.

Except a very small minority of cases this menstrual discomfort does not affect the woman's capacity for carrying on her ordinary work.

A premenstrual or development of menstrual pain also pathological condition whose cause whether local or general, ought to be investigated and treated before the discomfort becomes established as a regular habit. CAUSE CURATION.

Haymann Disturbed Menstruation I. Psychosomatic (Menstruationsstörungen bei Psychosen.)
Ztschr. f. d. ges. Verh. Psychiatr. 9 3 23 3.
By Zentgraf, f. d. ges. Gynak. Gebartsh. u. d. Gynäk.

The author made careful study of catamenium in the psychic cases. The patients

aged from 15 to 46 years and included only those who failed to reveal a cause for the menstrual disturbance. All cases had been observed at least 3 months. The author's observations are made on 206 such patients and his conclusions are:

Catamenium is frequently met with.

It may begin at any stage of the mental disturbance. It precedes the psychic symptoms in a small percentage of cases but occurs most frequently one to two months after the mental symptoms become manifest.

Menstrual disturbance seems to be absent in cases of chronic paranoia, is rare in manic-depressive, in cases of hysterical psychoses, and degenerative atrophy. It is present in 50 per cent of epileptics and 33 per cent of the cases of mania and melancholia. It is most manifest in cases of dementia praecox and catatony, somewhat less in hebephrenia and least of all in dementia parietal. It is very frequently present in organic psychoses, including paralytic.

There is decrease in eight at the time of menstrual disturbance, the eight again going up when the menses return. KÖRNER.

Mia Dysmenorrhoe and Its Treatment (Mia und Behandlung der Dysmenorrhoe.)
Und Abh.
By Zentgraf, f. d. ges. Gynak. Gebartsh. u. d. Gynäk.

The majority of authors are agreed that the cause of the pain lies in the condition of the nervous system. In most cases the evidence of the nervous system is associated with hypoplasia of the genitalia and the latter must be considered as part of constitutional anomaly of autonomic innervation. It is therefore necessary to test the general condition of the patient, and especially the nervous system and look for symptoms of autonomic imbalance.

In addition to the general treatment psychotherapy alone is the etiologically correct one. Regulation of the bowels is of extreme importance. Sexual intercourse is advised, but no unfavorable influence upon the nervous system is feared. Locally, hydrotherapy, gymnastics and massage are recommended in sexual imbalance. If the general and local treatment fail, sounding and dilation of the uterus may be employed. Castration is of questionable value. X-ray treatment is dangerous because of the possibility of inducing permanent sterility or later feeble conception products. Pain incident to menorrhagia should be controlled by hot applications and the usual drugs. Anal therapy on account of its good result deserves to be tried in each case. BRUNNEN.

Zoepprits The Treatment of Amenorrhoea (Zur Behandlung der Amenorrhoe.)
Deutsche Gesellschaft f. Gynak. Heile, 1 11.
By Zentgraf, f. d. ges. Gynak. u. Gebartsh. u. d. Gynäk.

In women suffering from amenorrhoea, increase in the lipid content of the blood has been observed indicating hypofunction of the ovaries (Neumann).

Herrmann) The author investigated this fact and determined that in 5 cases of amenorrhea a decreased amount of lipid was found, while another 100 cases the amount was increased. In the latter a marked improvement was obtained by the administration of ovarian extracts, while the former class did not react to ovarian preparations nor to pituitrin as recommended by Fromme.

Hill A Further Consideration of the Use of
Corpora Lutea in the Treatment of Artificial
Menopause. *Surg. Gynec. & Obst.* 9:1, xvi, 7
By Surg. Gynec. & Obst.

Hill, in reporting twelve cases treated with corpora lutea, was careful to select patients of intelligence and reliability running from 35 to 58 years of age, cases upon whom he had operated and removed both ovaries and who showed the most severe type of nervous symptoms. Following the use of corpora lutea in these cases the nervous manifestations were completely relieved in every case. In two only was there complete relief from flashes of heat. In one case here insomnia was most disturbing symptom, complete relief was obtained from corpora lutea, five grain capsules being used three times daily (total amber 30). The author was unable to report a cure as in several instances the treatment was interrupted and in others who had ceased treatment, relapses occurred and they were compelled to resume treatment.

Hill in a later article calls attention to cases of artificial menopause reported to him which partial or complete failure to control symptoms were noted following the administration of corpora lutea. In seeking to determine why these reports were so much at variance with his own results, he developed that insufficient medication was the prime factor in the failure to control symptoms. In some cases as few as twenty four capsules were given, others the maximum was one hundred. Hill calls attention to the abrupt precipitation of symptoms and the great amount of disturbance, etc., and the obvious necessity for treatment of some duration. The disturbing symptoms usually appear within a short time after operation, in many cases showing at the time the next period should manifest itself and continuing, unless relief is obtained, for from eighteen months to three years.

Symptoms may disappear after using corpora lutea and reappear after its administration has been discontinued. Treatment should be continued for some weeks after the patient presents normal condition. The author finds it necessary in most of his cases to give at least one hundred capsules and in others two hundred before suspending treatment. In relapsing cases the second treatment is usually much shorter than the first.

Ward The Treatment of Endometritis. *N. Y. J.* 9:1, xvi, 8 By Surg. Gynec. & Obst.

The pathology and treatment of endometritis are discussed in this paper. Ward refers to the revolu-

tionizing work of Hirschmann and Adler published in 1908 on the cycle of the four distinct stages of the endometrium throughout the menstrual month. The first stage is the premenstrual which begins six to seven days prior to the appearance of the flow and is characterized by an increase in the thickness of the mucosa two to three times that of the resting stage. The glands and their cells are enlarged and the stroma throughout has assumed a decidua type. This stage presents the conditions which were previously considered as characteristic of chronic hypertrophic endometritis. The second stage in the cycle is the menstrual stage when the blood appears and general atrophy is noted. The glands become flattened and some of the superficial epithelium is cast off. The third or post-menstrual stage shows the mucosa thin and pale. The glands are narrow, straight with contracted lumina, and the epithelial cells are small. The fourth stage is the interval stage which lasts about two weeks and shows the mucosa in what we have hitherto considered the normal condition. The normal changes, therefore, must be recognized as a temporary physiological hyperplasia and they become pathological when they are permanent or stationary. The permanent hyperplasia may be due to true inflammation or to circulatory disturbances.

Albrecht and Logothetopoulos contribute the following conclusions for an anatomic diagnosis of endometritis. It is based on certain changes in the stroma and blood vessels, circumscribed or diffuse infiltration of leukocytes, exudation, hypertrophy or atrophy of the stroma, the presence of blood pigments proliferating blood vessels and infiltration along the vessels, and inflammatory infiltration in the muscular interstices. In addition to the normal premenstrual hyperplasia there are certain pathological forms which are stationary, as the transitional forms between hyperplasia and adenoma occurring during the menopause post-menstrual and interval hyperplasia, hyperplasia following prolonged placental retention and hyperplasia after prolonged hemorrhages. 3. The permanent hyperplasia may be distinguished from the temporary form by certain anatomical features, mitosis, which is not marked in the latter form, irregularity as absence of the premenstrual folding of the mucosa, true intraglandular papillary proliferation, twisting and elongation of the glands, thickening and increasing of the epithelium and mitosis, irregular secretion, and loss of the typical premenstrual secretion. 4. Chronic inflammation the regularity of the cyclical menstrual phase is disturbed. 5. Chronic inflammation usually causes a proliferation of the uterine glands, hyperplastic and proliferating endometritis is therefore correct term, but it should be distinguished from the pathologic hyperplasia of the tertiary menopause in the absence of inflammation.

The treatment of endometritis is presented from the clinical rather than pathological standpoint. All cases of endometritis are divided into two

varieties—one those which are the result of an infection and two those resulting from circulatory disturbances. In the first variety, cut and chronic types are seen, but the chronic form, in account of the loss of virulence of the causative bacteria, or their disappearance stimulates slowly the non-infective type. The treatment is summarized as follows.

1. Leucorrhoea, the most prominent manifestation of the disease comes from the uterine cavity and not from the vagina. The treatment to be observed in acute infective cases is masterly inactivity. 2. The first and most important principle to be observed in treating cases of chronic hyperplastic endometritis is to determine the cause of the venous stasis and treat the same by appropriate measures. 3. The curette is the most valuable means for removing the greatly thickened and diseased endometrium, but if it is used alone, without correcting the cause, only temporary relief is obtained. 4. Vaginal douches, glycerine packs, and postural measures, if employed properly are valuable adjuncts in aiding and improving the pelvic circulation. 5. In those cases which are probably dependent upon disturbed ovarian function, either excessive or diminished, such as in the premenstrual menorrhagias and metrorrhagias, arterio-vascular uteri, chronic metritis, fibrosis, etc., and which are not benefited by the curette, local measures, a cure is sought in the direction of ovarian control, possibly by the X-ray or by means from antagonistic glands of internal secretion otherwise complete ablation of the ovaries or hysterectomy is the only resort. 6. In submitting curetted tissues to the pathologist it is imperative that the relation of the time of the curetting to the time of menstruation be stated, in order to obtain a opinion of value. HARRY SCHULTZ

Jones: I version of the Uterus, with Report of Cases Occurring During the Puerperium and Caused by Fibroid. *Surg., Gynec. & Obst.*, 9:2, xvi, 652. By Surg. Ormer & Obst.

Inversion of the uterus is a very rare pathological condition and usually is caused by child-birth. It occurs once in about 25,000 obstetrical cases. Not only did the author's case develop comparatively short time after labor but it had in addition fibro-myoma as causative factor. Tumors of the uterus produce only about 3 per cent of the inversions, and when present are usually the sole cause, entirely independent of pregnancy. An extensive review of the literature connects with this case leads to the following conclusions:

Etiology. In obstetrical inversion, the primary cause is uterine relaxation. The chief secondary factors are pressure on the fundus and traction the cord. In inversion not obstetrical in origin, uterine fibroid is almost the exclusive cause.

1. Pathology. Most cases are both cute and complete. In the complete cases the most important point is the degree of contraction of the cervix. In inversion of gynecological origin, the causative tumor is of preminent importance.

2. Symptoms. In acute cases, the cardinal symptoms are hemorrhage, back and pain. Later the manifestations of complicating infection may appear. In chronic inversion, the symptoms are those of marked uterine prolapse plus those of menorrhagia and metrorrhagia.

3. Diagnosis. This is made from the objective findings exclusively. In obstetrical inversions it is almost always very easy. Vaginally large, soft, pear-shaped, bleeding tumor is found, with the placenta attached in about half of the cases. Abdominally no corpus is found, but instead there is a cuplike depression. In gynecological cases, the diagnosis of inversion due to fibroid frequently is very difficult. The chief points are first the shortening of the uterine canal produced by inversion as compared with the lengthening caused by fibroid and secondly the indentation produced by the inversion on the peritoneal surface.

4. Prognosis. The mortality in acute cases in recent years has been about 35 per cent in chronic cases, about 6 per cent.

5. Treatment. 1. All cut and in most chronic cases, the manual reposition should be tried. In most of the former if undertaken early and in many of the latter this procedure is successful. If it fails, repositors, etc. may be used, but only for short time. If these are unsuccessful, one should resort to some operative method, the one of choice being colpohysterotomy. This operation stands preeminent in the treatment of difficult cases of uterine inversion on account of the facility of its performance and its success in accomplishing the reduction of the inversion, and also because of the practically complete absence of mortality. The uterine incision should be made at first through the cervix only and later should be extended as far into the corpus as necessary to accomplish reposition. In inversion due to tumor the treatment is mostly that of the causative fibroid. After this is removed, if the uterus still remains, spontaneous replacement occurs in about one third of the cases, while in the other instances reduction is accomplished usually without difficulty by non-operative methods. A case is reported in detail.

Donald and Shaw: Retroflexion of the Uterus. *Practitioner*, Lond. 9:3, 27, 66.

By Surg. Gynec. & Obst.

These authors have compiled statistics with reference to symptoms commonly associated with retroflexion uteri. These symptoms are menorrhagia and metrorrhagia, dysmenorrhoea, chronic pain, miscarriage and sterility. As result of this study they find that in the majority of cases, these symptoms or complaints are not present in uterine retroflexion. The subsequent histories of 267 patients who were curetted for this condition have been collected. Of these 86 per cent were cured or much improved. As result the authors argue strongly in favor of curettage alone rather than suspension operation. Their conclusions are:

1. Simple mobile retroflexion of the uterus seldom, if ever, causes symptoms.

2. A patient with a mobile retroflexed uterus, suffering from a majority of the symptoms mentioned and who has not improved with a course of drugs, should have the uterus dilated and curetted.

3. Any fixation operation is justifiable in these cases until curettage has been given a trial.

4. If curettage has failed to improve the condition within twelve months of the operation a fixation operation may be advised.

5. In almost all the cases in which curettage has failed, some condition other than simple retroflexion will be found.

CARAY COLLEGE.

Andrews. An Unusual Case of Rupture of the Uterus. *Proc Roy Soc Med* 93. Obst. & Gynec. Sect. 7. By Surg. Gynec. & Obst.

The patient was 3 years old and had had 10 previous instrumental deliveries. In her third labor the accoucheur had pulled the head through the brim of the pelvis with the forceps with great difficulty. The child was born alive with the occiput anterior and the placenta was removed by hand. No anesthetic was employed. Ten days later the patient's condition was grave. The swollen, lacerated cervix protruded three or four inches from the vagina, it being very dark in color and giving off an offensive odor. Examination showed (1) an incomplete rupture of the perineum, (2) the vagina was completely separated from the cervix except for about three inches in front and (3) the right side (4) the lower uterine segment and cervix are separated from the posterior segment except on the right side and in front (5) the lower uterine segment and cervix are torn through from top to bottom on the left side. A large quantity of blood as found in the peritoneal cavity. Vaginal hysterectomy as undertaken the greatest difficulty coming in the separation of the bladder from the cervix. The torn left uterine artery could not be found. The anterior and posterior peritoneum and the vaginal walls were sewn together. Large drainage tube was inserted and the perineum was repaired.

Recovery eventually took place after four and one-half weeks of pyrexia. Andrew believes that the accoucheur must have pulled the forceps out of the uterus, the cervix and the lower uterine segment being pulled away with the head by main force.

CARAY COLLEGE.

ADNEAL [AND] PERIUTERINE CONDITIONS

Abel and M. Hury. The Arrangement and Distribution of the Nerves in Certain Mammalian Ovaries. *Proc Roy Soc Med* 93 vi, Obst. & Gynec. Sect. 240. By Surg. Gynec. & Obst.

The authors briefly review the literature of this subject, giving the methods of investigation and the results of the work. The latter may be briefly summarized as follows.

(1) They vary in the cat, dog and rabbit is richly supplied with nerves which enter at the hilum.

(2) In the ovarian tissue the nerves are divided into three sets: vascular, follicular and an interstitial set which all anastomose.

(3) On the course of the nerves numerous varicosities are seen, while groups of very small cells are found in connection with the interstitial set.

(4) The follicular nerves lie in the tunica intima and externa and do not pass into the membrana granulosa.

(5) The function of the ovarian nerves is primarily vasomotor.

C. D. HOLLAND.

Raths. Pseudomyxoma Peritonei with Involvement of Ovaries and Appendix (Pseudomyxoma peritoneum mit Beteiligung der Ovarien und der Appendix). *Monatsschr f Geburtsh. u. Gynäk* 913. 1902.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The patient married and 41 years old, was first operated upon in 1901 for bilateral ovarian tumor the left the size of an adult head, and the right the size of a fist. The left tumor ruptured during its removal and a gelatinous pseudomucinous fluid escaped. The right one was also removed and showed the same characteristics. Gelatinous fluid was found free in the abdominal cavity. An accidental recovery ensued. The patient entered the clinic again in 1902. In the scar a mass was found the size of hen's egg consisting of pseudomucinous growth in the peritoneal portion of the abdominal wall. Metastases were not found within the abdomen. The patient entered the hospital the third time seven months later. The general condition was bad, a number of tumors being palpable in the abdomen. During the operation tumors were found at the place of resection of the right ovary in the peritoneal covering of the bladder and disseminated throughout the entire omentum. The appendix also was cystic, being 8 cm. long and 4 cm. broad. The tumors were removed as far as possible but the patient was discharged unimproved. The author recognizes the typical course of the disease which coincides with the investigations of Werth, Olausson and others. The epithelium is disseminated and continues to proliferate as determined by microscopical examinations.

I. 190. Finkeln. Hamburg proved that the disease may originate from the diseased appendix. Several analogous cases have since been described. It is remarkable that these cases always terminate favorably while those originating from ovarian disease do not. The author contradicts the statement of Meyer that pseudomucinous tumors of the ovary are secondary and that pseudomyxoma peritonei is usually derived from the appendix. JOURNAL.

Taffier. The Grafting of Human Ovaries (Les greffes ovariennes humaines). *J. de Chir.* 93 2, 530. By Surg. Gynec. & Obst.

Taffier having demonstrated that suppression of menstruation and not loss of ovarian function is

the cause of post-operative trouble following castration, presents a study of the results obtained by preserving the menstrual function through ovarian grafts. A series of 130 cases proved that ovarian utografts alone are capable of ovulating and of maintaining the menstrual function.

The author technique is as follows: Given case of salpingitis in which the uterus can be conserved, the tubes and ovaries are removed. The ovaries are immediately grafted in the loose subperitoneal cellular tissue on each side of and 5 or 6 cm. distant from the median incision, which is then closed in three layers. Even if the ovary be sclerocystic it is valuable for grafting if it be aseptic. The author strives to place the hilum of the gland next the spongyosus.

Of 44 patients operated upon in this manner the author has seen 9, 8 of whom have menstruated 14 having been followed for more than 12 months. All have had the following sequence: ovulation and menstruation. Increase in volume of the ovary then, 31 day later menstruation with disappearance of the ovarian tumefaction. This phenomenon is not witnessed until from 31 to 7 months after the operation. The vitality of the ovarian grafts has been demonstrated in 10 cases which required the removal of the grafted ovary. Voluminous arteries and veins are demonstrated at the periphery of the grafts.

The author has observed that from the date of operation until the reappearance of menstruation the patients suffer from the usual effects of castration before the menopause even if the transplanted ovaries undergo their characteristic swelling. As soon as menstruation sets in, all the accidents consequent upon castration disappear. The obvious conclusion is that menstruation and not ovulation is the more important for physiological equilibrium.

These ovarian grafts do not functionate indefinitely. The distant results from one to five and one-half years following operation, show that of 14 patients only three menstruate regularly as regards quantity and periodicity are regular but have had menorrhagia, 4 are irregular, 3 after 3 years have seen progressive disappearance of menstruation, had menorrhagia with prolonged menstruation and finally 4 had pain either at the site of the graft or in the uterus and in 3 cases, after lapse of 3 1/2 years, the graft had to be removed. While in some cases the new life of the graft with normal function is shown by normal menstruation, in other cases it adapts itself badly to its abnormal nutrition and ends by atrophy.

The author finally concludes that in young women particularly if they suffer from hyperthyroidism in the presence of inflammatory lesions requiring resection of the adnexa, the uterus should be left in place if it can be conserved, and one or both ovaries should be grafted. Thus menstruation is secured for greater or less period of physiological equilibrium of the patient.

Hermes Transplantation of Ovaries into Foreign Species; Second Report (Überpflanzung von Ovarien in das fremde Art, Mittell.) Arch. f. Entwickelungs gesch. d. Organism., 9, 3, xxv, 748.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The question considered was: Has the host of the transplanted ovary the power of influencing the germ-plasm? The ovaries of foreign species of tritons were transplanted into the domestic triton, and the two animals kept in symbiotic relationship for some days before the ovary was entirely transferred. I this way the effects of the foreign albumen as resorbed. The implanted ovaries lived and produced eggs but the offspring as that of the domestic triton. This shows that the host had no influence on the germ-plasm of the transplanted ovary.
Gefürsorge

Rösel The Effect of Castration on the Hypophysis (Über die Hypophysen nach Castration.) Medisch. med. Wochenschr. 9, 3, ix, 932.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The relations existing between the hypophysis and the genitalia are antagonistic. The experiences obtained in the study of acromegaly, dystrophia adiposo-genitalis, and the investigations after extirpation of the hypophysis all speak for that fact. On the other hand, in cases with primary changes in the genitalia more or less typical changes in the hypophysis also result such as hypertrophy during pregnancy and the well known changes occurring in animals, following castration.

The author investigated the matter on hypophyseal glands. A definite enlargement of the gland by weight could not be demonstrated regularly under the conditions under which the castration had to be conducted. That in part is due to the age and the cachectic condition of the patients in whom it was necessary to extirpate the genital glands. If this extirpation occurs during the climacterium but few changes are demonstrable in the hypophysis whereas if it occurs in younger persons the hypophyseal reacts in very short time to the removal of the ovaries or of the entire pelvic viscera and this even in the presence of severe general disease. Histologically hyperplasia of the eosinophilic cells occurs at the expense of the principal cells and especially of the basophilic cells. A special phenomenon characterizes the latter, the abundance in areas of the hypophysis in which normally but few are found.
Rüchert.

Cope and Katti A Case of Chorion-Epithelioma of the Fallopian Tube Following Extra Uterine Castration. Proc. Roy. Soc. Med., 19, 3, vi, Obst. & Gynec. Sect., 247.
By Surg., Gynec. & Obst.

The patient was 45 years of age and the mother of two children. Ten years after the birth of her second child, which died 7 days, she was told she had mole. Three years after this she was abdominal distress characterized by great vomiting and unconsciousness. Vaginal

examination showed an enlarged painful swelling in the left fornix. These symptoms subsided after three weeks rest in bed. One year later she came to the hospital for constipation and vomiting with diagnosis of intestinal obstruction. On abdominal section a large mass filled the pelvis. The growth had its origin in the right side of the pelvis. There was no trace of the right fallopian tube. At the end of the third week she began to complain of pain in the right iliac fossa. She had some temperature and on opening the abdomen a second time dark red mass was seen between the cecum and the right brim of the true pelvis, also filling the right half of the pelvis. On removing some of the former portions, great difficulty was experienced in stopping the flow of blood. The patient died a few hours.

On post mortem examination both uterus and vagina were found to be normal, and small portions of normal ovarian tissue were found in the midst of the material removed at the first operation, and since the only traces of fallopian tube seen on that side were in the microscopic sections, there seems to be little doubt that this was a case of tubal chorio-epithelioma. The material removed at the first operation was also chorio-epitheliomatous.

From the clinical aspect the following conclusions are offered:

(1) Chorio epithelioma of the fallopian tube has no special age of incidence.

(2) It is sometimes accompanied by previous history suggestive of a waning vitality of the fertilized ovum.

(3) The symptoms are usually those of tubal gestation followed after period of quiescence by tumor formation and wasting. In minority of cases uterine hemorrhage and hypogastric pain may be all that is noticed.

(4) Sometimes a vaginal nodule first calls attention to the condition.

(5) In any suspected case abdominal section is to be devised.

(6) All tubal gestations which have been operated should be carefully watched for considerable period after operation.

(7) If the growth is at the angle of the uterus hysterectomy is advisable.

(8) The prognosis is unfavorable, but can never be given with certainty because recovery has taken place even when secondary deposits have formed.

(9) The origin of the tumor is from the perverted growth of the chorionic villi tubal mole.

C. D. HOLLAND

EXTERNAL ORNITHIALIA

Pozsonyi. The Surgical Treatment of Primary Carcinoma of the Vagina (A case diagnosed briefly before death as carcinoma). *Beiträge zur gynäk. u. Geburtsh. d. Grenzgeb.* 9, 3, 11, 16.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author circumcises the vagina in the introitus, forms a cuff closes the vagina and anus. Then he

makes an incision through the skin from the sacrum to the anus, removes the os coccyx and isolates the rectum on all sides. The cutaneous incision is then carried to the vagina after a circular incision is made about the anus. The muscles of the pelvic floor are cut through and the rectum and vagina are pulled down. The urethra and bladder are freed from the vagina, the ureters are pushed up the plica vesico-uterina is cut and the uterus and adnexa are pulled down. The two spermatic arteries are ligated. The round and uterine ligaments also are tied. The latter, as well as the parametria, are then dissected. The flexure of the colon is then isolated so that the rectum may come down readily. The peritoneum is then closed, and deep retention muscle sutures are made with silk. Gauze drainage is provided through the middle of the wound, ending near the sigmoid and peritoneum. After the wound is closed the rectum is cut through and an anus sacralis is established. Recovery was rapid and the patient was well six months after the operation. The stool is regulated by means of controlling the diet.

FROSTEN.

Bandler. The Importance of the Incised T-T Incision in Vaginal Surgery. *Med. Rev.* 9, 3, 1911, 64. By Surg., Gynec. & Obst.

The author strongly advocates the use of the T-incision in all gynecological cases where the vaginal route is considered in operating on multipara. Such operations as the following he does with this incision: Anterior fixation, vaginal fixation, correction of cystocele, retroflexion, vaginal hysterectomy, salpingectomy, etc.

The procedure is simple. A transverse incision is made around the cervix in the anterior fornix, then the bladder is stripped off of the anterior wall of the uterus. This discloses the vesico-uterine fold of peritoneum which can be opened under guidance of the eye. The bladder is now stripped from the anterior vaginal wall and this wall is split longitudinally beginning in the center of the transverse incision. The author claims this will make as large an opening as the ventral abdominal incision, and there is no danger of perforating the bladder.

EUGENE CARY

Kurg. Ecthiomema, or Lupus Vulvae. *J. Obst. & Gynec. Brit. Emp.* 9, 3, 1911, 353.

By Surg., Gynec. & Obst.

This is an elaborate historical, pathological and clinical study including analysis of six cases, with three tables and then microphotographs. The author's summary is as follows:

Nomenclature. The term ecthiomema has been misunderstood and misapplied by many authors. It should be retained as a useful term replacing the expression hypertrophy with ulceration. It should be clearly understood that it is a tertiary syphilitic lesion. Lupus vulvae should be replaced by the expression tuberculosis of the vulva, a tuberculous ulceration and hypertrophy

occurring in the perineal region while lupus vulgaris, as found in the skin of the face, does not. Elephantiasis is a term applied to hypertrophy occurring in chronically edematous parts whence the return of lymph has become obstructed or rendered sluggish, and where, owing to the unhealthy state of the enlarged parts, a low form of chronic inflammation has set up. The hypertrophied masses of endothelium are not edematous these enlargements they are granular growths with tendency to necrosis.

2. The nature of endothelium. It is not disease and generally nor form of low bronchial ulceration occurring in a well weakened by constitutional syphilis or tuberculosis. It is not merely local inflammatory state following on irritation. There is no relation between it and tuberculosis. The only connection between endothelium and malignant disease is that the former may occasionally undergo malignant degeneration. It is not due to lymph stasis hence it does not belong to the group of hypertrophies called elephantiasis.

3. Endothelium a tertiary syphilitic manifestation. (a) A direct or probable history of syphilis is almost always obtained. (b) The majority of early cases respond to antisyphilitic treatment, those later or chronic cases not so responding being no indication that endothelium may at times be due to other causes than syphilis. (c) The chronic course of endothelium marked by attempts at healing with subsequent relapses, the absence of local disturbances, the non-impairment of the general state of health indicates the syphilitic nature of the condition. (d) The masses of coarcted tissue with subsequent contraction producing severe structures and extensive deformities is typical of no other disease. (e) In no other constitutional disease is there such constantly present combination of hypertrophy and ulceration as in syphilis. (f) The microscope reveals the typical gumma or gumma alba of the third stage. (g) Up to the present time we find no cases recorded where the spirochaeta pallida was found in endothelium tissue. (h) The positive Wassermann reaction will certainly in time reveal all cases of endothelium in the field of tertiary syphilitic lesions.

CASEY COLBERTSON

Hazen. Perineorrhaphy with the Buried Layer Stitch. *Internat. J. Surg.*, 9, 3, April, 14.
By Surg. Gynec. & Obst.

The author points out the objections to the old Emmet operation, especially the disadvantage of the mass stitch or cross stitch. This stitch fails to bring the parts back into correct anatomical position, layer by layer and often allows gaps to form between the deep portions. The same objections would seem to hold good here as hold in the old method of using the mass-stitch for closing the abdominal wall. Not only are the parts not approximated accurately but many times the only layers which are well approximated are the very superficial. With the author's method the perineum is restored

layer by layer. First the levator ani muscles are freed and brought into plain view. They are then sutured with strong chromic gut. The deep fascia is then identified and sutured in the same manner. The superficial fascia is next sutured. All of the foregoing sutures are buried. The skin is closed with some non-absorbable material. J. H. SENTER.

Schabak. Primary and End Results of the Operative Treatment of Perineal Lacerations, Vaginal and Uterine Prolapse Through Restoration of the Pelvic Floor. (*Primäre und Endresultate bei operativer Behandlung der Perineal-, Schiden- und Uterusprolaps durch Herstellung des Beckenbodens*). *Monat. Rundschau*, 9, 3, 21, 1909.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

The material consisted of 56 cases. Of these there were 50 cases of perineal lacerations without any vaginal or uterine prolapse, 9 with prolapse of vaginal wall in various grades, 143 with incomplete, and 4 with complete prolapse of the uterus. The author is of the opinion that prolapse of the vagina and uterus occurs in 90 per cent of multiparae and in 3 per cent of nulliparae. The degree of prolapse is directly proportional to the number of births. The disease is chronic. The first evidence manifest itself after the first birth, 45 per cent in 6 per cent after following births, in 30 per cent after the last labor and in 10 per cent during the climacterium. 1 per cent of the acute prolapse is due to external trauma of the perineum and is accompanied by shock. The weakness of the pelvic floor, the retroversion of the prolapse are closely associated with child-birth. A complete laceration of the perineum rarely results in a prolapse of the uterus and vagina. The best results of the operative restoration of the pelvic floor are obtained by colpoperineorrhaphy.

The longest observed case dates back eleven years, the shortest nine months. The primary operative results are 908 complete recoveries, 3 deaths, 3 cases discharged uncured. Eight recurrences were observed among 39 patients, no appeared for re-examination or answered by mail. Absolute cure therefore 916 per cent. Mortality rate as a per cent.

The author advises high amputation of the cervix in elongated and hypertrophied cervixes, anterior colpoperineorrhaphy in cystocele V-shaped ectrosia in chronic metritis and curettage in endometritis as valuable aids in restoring the pelvic floor. They add materially to the primary and end results. As in 55 per cent of the labors following the operation laceration occurs, the author advises perineotomy for its prevention. KIMMEL.

MISCELLANEOUS

Hartmann. Extravaginal Opening of the Uterus in Women. (*Über die extravaginale Anastomose der Harnblase bei Frauen*). *Zentralbl. f. Gynäk. Urol. Laus.* 19, 3, 16, 1909.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

This patient was 49 years old and had been suffering with incontinence for 5 years. Although

t has never showed any lesions. The bacilli of the carbuncle were found in the uterus, tubes and ovaries in the latter organs especially in the germinal zone. Staphylococci were found only exceptionally in the uterus or in the ovaries. It was never possible to obtain metastases of staphylococci in the tubes.

BRUNNEN

Kroemer: The Action of Mesothorium upon Genital Tumors (Mesothorium-Einwirkung auf genitale Neubildungen). *Deutsche Gesellschaft f. Gynäk. u. Geburtsh.*, 9. u. 10. May.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Kroemer reports twenty-two cases, most of which were inoperable tumors, which he treated with mesothorium and with deep applications of the X-rays. Simultaneously the treatment was augmented with the use of Thorium X. Although the results are less satisfactory in far advanced metastatic ovarian and testicular cancers, also cases of cervical cancer which were deemed inoperable improved so much that the uterus regained its movability in seven cases and radical removal was accomplished. In one instance radical operation could not be undertaken on account of a septic endometritis following abortion. Similarly good results were obtained in two cases of corpus carcinoma, one with vaginal metastases also in one case of rodent ulcer of the vulva. In the last case spontaneous cure could have been waited had not coincident pruritus vulvae demanded amputation. The patient was of the type in which hypersensibility to mesothorium exists and who consider the little capsule as a veritable fire capsule. The extirpated inguinal glands showed morbid infiltration with migratory and plasma cells, but no carcinoma cells.

In all operated cases the incision scar as treated with mesothorium for two to three hours a day during convalescence. An injury to the healthy tissues was not observed. Warmth, erythema and vesicle formation on the skin receded immediately with blanching parts. The quantity of the rays administered varied. In cervix cancers the dosage was 3000-7000 mg. hours of mesothorium augmented by several series of X-rays which were given every ten to eleven days to one H. The patients at the same time were given thorium X per os in dosage of 0.05 g. E. For the local treatment thorium X (500-1000 g. E.) as given in the form of ointment tampons and compresses. It was also employed in quercus solution for hypo-

dermic injections in three cases of glandular recurrence. At minimum gold and silver capsules are used as filters. The results are always controlled on the later extirpated organs and once on autopsy findings. An absolute cure of the cancer as only obtained twice. Glandular metastases were the least influenced and of the primary tumors, those which spread toward the vagina and external os. Deep living carcinomatous tissues could be demonstrated in most organs.

Although the result obtained is much behind the expectations, the author nevertheless believes that the treatment with mesothorium and thorium X, supplemented with the X-rays, adds much to complete carcinoma therapy. It promises permanent cure in all external cancers of the cervix, vagina and vulva. It adds the operative therapy in so far as it improves inoperable cases. At least it does away with the sloughing and fetor. The glandular metastases have so far not been influenced favorably.

Falgowski: The Operative Treatment of Old Infiltrations (Zur operativen Behandlung alter Infiltrate). *Deutsche Gesellschaft f. Gynäk. u. Geburtsh.*, 9. u. 10. May.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Falgowski considers the puncturing of infiltrations through the vagina with drainage not always sufficient, as thorough drainage is not obtained or maintained long enough. Infiltrations high up are not reached, or only with difficulty. It is also impossible to secure a lasting replacement of the uterus. The author therefore in all chronic conditions which do not improve under conservative treatment, employs more radical procedure. He performs an anterior and posterior colpotomy, blunt separation of the uterus from adhesions through manual lamination of the entire pelvis, deep vagino-fixation and wide drainage of the entire pelvis through both colpotomy wounds. The gauze drains are saturated in 5 to 10 per cent camphorated oil. This is renewed several times.

The procedure requires from three to five weeks and the exudate disappears with the correction of the tilted position. In older women the uterus may be removed entirely. The author cured four cases in this manner. The operation is without danger as all work can usually be done extra-peritoneally. Injuries to other organs are always prevented. The disturbances in the urinary and nervous systems are likewise favorably influenced.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Hauer: Quadruplets and Their Mothers (Verfälschte und Veringsmutter) *München und Pilsener* 9 3. ix. 8

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Gynäk.

A 29-year-old multipara gave birth to living quadruplets in the 38th to 40th week of pregnancy. The babies died within the first 24 hours. They were practically of equal size. Examination of the placenta revealed the fact that it was a case of 4 pairs of twins with three placentae. The one pair came from two eggs, the other from one egg with one union. The author discusses the various hypotheses that might explain the possible origin of the two groups. His review of the literature and statistics shows that

The mothers of quadruplets are, on average, older than the mothers of triplets, and the latter older than those of twins.

The number of primiparae giving birth to more than one child decreases with the increase in number of children of pregnancy.

3. The mothers of quadruplets are nearly all multiparae (VI parae or even more) the mothers of triplets and twins are also multiparae (II to V parae). *Estados*

Füth: A Further Contribution to the Displacement of the Cecum During Pregnancy (Weitere Beiträge zur Verschiebung des Cecums während der Schwangerschaft) *Deutsche Gesellschaft f. Gynäk. Halle*, 9 3. May

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

In five months' pregnant woman who had never had any trouble in the iliocecal region, Füth found the cecum, the adnexa and the omentum fixed to the posterior wall of the uterus and containing an abscess in which the appendix could not be found. The abscess was three to four fingers breadth above, and lateral to the anterior superior spine. It was possible to bring down the cecum without traction to the iliac fossa and fix it there. The trouble probably commenced with adhesions between adnexa and appendix, and the cecum was drawn along with the appendix. There were no congenital anomalies of the ligaments or mesentery of the cecum or ascending colon.

The author's observation has been corroborated by Korn, Babler, Schmitt and Cook, as well by the anatomical preparations of Hahn. A very valuable corroborator is offered by the studies of cecum mobile and particularly by the fact brought out by Dreyer at autopsies that 75 per cent. of all women possess an abnormally movable cecum, whose mobility extends downward to the small pelvis as

well as upward to the edge of the liver. In spite of all this the author does not consider the question of displaced cecum during pregnancy as definitely settled and is not surprised that Renvall was unable to demonstrate marked displacement of the cecum in two women operated on during the sixth month of pregnancy.

Jaschke: Diseases of the Kidneys During Pregnancy in Women Suffering from Heart Disease (Nierenerkrankungen in der Schwangerschaft bei herzkranken Frauen) *Deutsche Gesellschaft f. Gynäk. Halle*, 9 3. May

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

Normal pregnancy and especially labor put considerable demands on the heart which may be dangerous. Although this hardly holds good for valvular lesions it does pertain to diseases of the myocardium occurring either alone with valvular lesions. Accordingly it is evident that pregnancy complicated with heart and kidney disease is very dangerous. This applies only to such renal diseases as cause an increase in the work of the heart muscles, i.e., hypertony which is clinically evidenced by hypertrophy of the left chamber and finally by hypertrophy of the entire heart. The pregnant kidney is not of any importance. Even if it is accompanied by slight increase in the blood pressure, the latter may easily be combated by dietetic measures. In the chronic pregnancy kidney the blood pressure is markedly higher (170-80) and the work of the heart is increased. Yet by proper treatment the blood pressure can be kept within moderate limits. The occurrence of eclampsia is dangerous because it severely strains the heart. The highest demands are put on the heart by the so-called chronic nephritis in graviditate. It is impossible to distinguish the latter from the chronic pregnancy kidney. The high and persistent increase in blood pressure up to 150 or more which is uninfluenced by treatment, explains why occasionally well heart, and almost always a diseased heart, succumbs. The only help lies in removing the increased demands placed upon the heart by interrupting the pregnancy.

Jaschke: Kidney and Pregnancy (Niere u. Schwangerschaft) *Deutsche Gesellschaft f. Gynäk. Halle*, 9 3. May

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

The relationship between high blood pressure and low urine and chlorine elimination, suggested by Zangemeister is very misleading. In the first place it is more complicated than he believes, and secondly the decrease of the amount of urine and chlorides is

Eckelt. The Function of the Kidney of Pregnancy and the Eclamptic Kidney (Über die Funktion der Sch. angrenzt mit- und Eklampsienere) *Deutsche Gesellschaft f. Gynäk. Halle, 9.3.13.*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Having performed experiments in metabolism the author comes to the following conclusions. The function of the kidney of healthy pregnant women in regard to water-sodium-chloride and N-chimination is equal to that of non-pregnant women. These are interfered with in the kidney of pregnancy. It is not possible to predict eclampsia on these grounds before the pains begin. The same holds good for blood-pressure and percent of albumen. After the pains of labor have begun, decrease in the sodium-chloride seems to indicate eclampsia. A decreasing titer and high albumen do not make the prognosis of an eclampsia worse. Nor is the prognosis of kidney of pregnancy made worse by decrease in the titer and increase in the amount of albumen.

The kidney of pregnancy and the eclamptic kidney has the identical anomaly in function. Comparative studies of the blood-pressure, edema and disturbance of the function of the kidney lead to the conclusion that the kidney of pregnancy is the expression of direct parenchymatous disturbance brought about by toxin in the circulation.

Holzbock. The Kidney in Pregnancy and Nephritis (Über die Sch. angrenzt mit- und Nephritis in der Schwangerschaft) *Deutsche Gesellschaft f. Gynäk. Halle, 9.3.13.*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Holzbock thinks the term kidney of pregnancy is anatomically unjustifiable, for degenerative and inflammatory processes blend together in the anatomical as well as in the clinical picture. He suggests careful study of each case, in order to determine whether insufficiency of the kidney exists. Schlayer's function test is of great diagnostic aid; it often reveals masked nephritis. Chronic nephritis may develop from kidney of pregnancy. These investigations have no bearing on eclampsia, and the author intimates that the latter be treated differently than nephritis.

31 year. Pyelitis and Its Relation to Pregnancy (Über Pyelitis und ihre Beziehungen zur Schwangerschaft) *Deutsche Gesellschaft f. Gynäk. Halle, 9.3.13.*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Pregnancy is not the cause of pyelitis, but predisposes to it. Many cases of pyelitis are descending infections. Organisms enter the pelvis by the blood or lymph stream and by pus foci near by. The recently described lymphatic connection between the colon and the right pelvis probably accounts for the occurrence of infection by way of the lymph stream and explains the greater frequency of right-sided pyelitis. Although normal bowel flora do not

penetrate the normal bowel wall, abdominal flux may very easily penetrate a changed bowel wall. Pyelitis is frequently preceded by acute gastric disturbances with changed intestinal flux. The serological behavior also indicates an increased virulence of the bacterial organisms. Appendicitis deserves particular consideration in the etiology of pyelitis. Pyelitis frequently leads to early interruption of pregnancy. The child, although at term, is frequently undeveloped. An improvement occurs usually with the onset of the puerperium, although there are numerous exceptions, and genital infection may follow during pregnancy. Pyelitis must be differentiated, especially from appendicitis, occasionally from peritonitis, puerperal infection due to criminal abortion, acute respiratory diseases, and genital hemorrhages.

Opitz. Pyelitis Gravidarum (Neue Beiträge zur Pyelitis Gravidarum) *Deutsche Gesellschaft f. Gynäk. Halle, 9.3.13.*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author reports on the systematic examinations of bladder and kidney urine in 160 cases of pregnant women. Bacteria were found in almost 4% of the cases but a pyuria was present in only 1/3 of them. Bacteria are the organism most frequently found. Besides this most extraordinary varieties of organisms were isolated, even the yeast fungus being present in some cases. In the 60 women, twelve had definite pyelitis. It is difficult to find four cases of pyelitis observed during the early months of pregnancy. As there were cases in which the kidney urine was sterile, the presence of pyelitis due to the usual pyelitis organisms, the author concludes that an ascending infection of the pelvis can hardly be questioned. The author does not deny the possibility of lymphatic infection of the renal pelvis but does not believe it occurs commonly. In view of the fact that cystoscopic examinations have proven that ascending infection of the ureter occurs much more readily during pregnancy than at other times.

Kroemer. Etiology and Treatment of Pyelitis Gravidarum (Zur Ätiologie und Behandlung der Pyelitis Gravidarum) *Deutsche Gesellschaft f. Gynäk. Halle, 9.3.13.*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Kroemer, from thirty-eight cases of pyelitis, thirty-one of which were pregnant, arrives at the following conclusions: (1) Pyelitis in numerous instances is long drawn out disease with tendency to recurrence. It frequently follows infectious diseases, gastro-enteritis, colitis, thrombophlebitis, polyarthritides and angina. (2) Pregnancy predisposes to recurrence as it may cause obstruction of the ureter manifesting itself first as a hydro-ureter and pyelocystitis with bacteriuria. (3) Pelvic irrigations and drainages are to be considered only as symptomatic treatment, which must be augmented by vaccine therapy and prolonged observation. (4) A continuation of one-sided pyuria after the puerperium must

be considered as due to manifest kidney lesion, and surgical treatment would seem advisable. (3) The possibility of tuberculous affection of the kidney pelvis must be considered in each case. (6) Congenital anomalies of the ureters and kidneys floating kidney or structure of the ureter due to obliterating urethritis, must be considered.

Weibel: Serological and Clinical Phenomena in the Pyelitis of Pregnancy. I. Antibodies in the Maternal and Fetal Blood. I. Cases of Pyelitis of Pregnancy (Serologische und Klinische über Schwangerschafts-pyelitis. Über Antikörper im mütterlichen und fötalen Blute bei Schwangerschafts-pyelitis). Arch f Gynäk. 9 3, xlix, 245. By Zeitschr. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Bacteriological investigations of the blood in cases of pyelitis, even in highly febrile cases have always given negative results. The agglutination reaction in positive colon bacillus infection has been almost always negative. Weibel, therefore, demonstrated in eight cases of colon pyelitis of pregnancy the presence of bacteria of the third order (Bordet-Gengou antibodies of the amboceptor type) using the complement fixation method. In all cases except one there were definite antibodies against the autogenous bacillus, in several cases antibodies in lesser quantity against foreign strains, but never any antibodies against any strain in normal serum. The investigations regarding bacilli found in the bowel were not uniform. However in cases not infected no antibodies were produced against their own strain of bacilli in the bowel, and no immunity to their own flora. In all cases in which antibodies could be demonstrated in the mother they were present also in the child born of that mother, the sera of both usually being of the same type. Antibodies were found also in the amniotic fluid, but were much weaker in action. With the receding of the infection, drop in the immunity also occurs. In the serum of the infant the antibodies disappeared sometimes very quickly, at other times less quickly, sign of passive immunity.

Weibel reports one case of particular interest, since spontaneous recovery occurred during pregnancy without any treatment characterized by disappearance of the antibodies from the blood with sterile urine in the pelvis of the kidney and bladder at the time of labor. **Nirmann.**

Novak and Strisower: Concerning Peculiar Form of Glycosuria in Pregnancy and Its Relation to Diabetes Mellitus (Über eine besondere Form von Glykosurie in der Gravidität und ihre Beziehungen zum echten Diabetes). Deutsche Gesellschaft f. Gynäk., 9 3, M. y. By Surg., Gynec. & Obst.

The examination of fourteen cases of spontaneous glycosuria in pregnancy conducted under known diets, led the authors to conclude that the glycosuria of pregnancy is usually entirely of renal origin. Sugar metabolism may be disturbed in individual cases, but overactivity of the kidneys for sugar is usually to blame. In the last cases combination of the two was noted. Real diabetes gives very

poor prognosis, two cases in the last year in Wertheim a clinic died in coma. The normal content of sugar in the blood, failure of the clinical attributes of diabetes and the benign course distinguish the two forms. Careful clinical observation is necessary to distinguish the combined form. Hydramnios and intra-uterine foetal death are characteristics of real diabetes.

JAMES R. MILLER

Shoemaker: Acute Membranous Vaginitis. I. Pregnancy Due to Enterococcus. Proc. M. J. 9 3, xvi, 705. By Surg. Gynec. & Obst.

Shoemaker cites two cases in which the enterococcus was the exciting cause of severe vaginitis which began in the eighth month of pregnancy.

The symptoms were an extremely painful condition of the vulva and vagina with severe burning and itching. The patient was unable to sleep and had to sit in chair day and night. The vulva was swollen and the skin and mucous membranes reddened. A thick yellow latex discharge was present. It is non-adherent yellow masses in the vagina the size of spoon bowl. The organisms in the first case were diplococci, or enterococci, while in the second case the streptococci staphylococci, *Vibrio albacans* and fungus of thrush were associated.

Treatment consisted of permanganate of potassium was used as daily vaginal douche, while the vulva and surfaces of the vagina were painted daily with a fifteen per cent solution of argyrol. Both cases recovered within three weeks.

EDGAR CARY

Sellheim: A Case of Rupture of the Uterus During Pregnancy (Ein Fall von Uterusruptur in der Schwangerschaft). Deutsche Gesellschaft f. Gynäk. Halle, 9 3, May. By Zeitschr. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The tearing of the uterine wall in a 4 year old woman, secundipara, must have begun in the first two months of pregnancy for at that time she had had severe abdominal pain and internal hemorrhage. The movements of the child were no longer felt after the seventh month, and five weeks later menstruation set in. The menses occurred every four weeks thereafter.

Examination of the uterus excludes ectopic pregnancy for the old scar was plainly visible in the fundus. It was probably a case of premature separation of the foetal wall where the placenta had been located, thus allowing the vum to slip out into the peritoneal cavity. The placenta may have functioned little longer but it and the vum soon died. The uterine all repaired itself and the menstrual flow became re-established.

Bannister: A Case of Extensive Rupture of the Utero-Vaginal Junction with Escape of the Placenta into the Peritoneal Cavity. Proc. Roy. Soc. Med. 9 3, 4, Obst. & Gynec. Sect., 37. By Surg., Gynec. & Obst.

The patient, 35 years of age and pregnant for the tenth time, had had nine forceps deliveries. After

she had been in the second stage of labor with right occipito-posterior presentation, the physician applied forceps, rotated the head and delivered a still-born child. Two hours later as the placenta had not been delivered, and as slight hemorrhage was persisting, manual delivery of the secundines was attempted but the hand passed easily into the abdominal cavity. The cervix was lacerated and there was a large tear in the posterior vaginal vault. On opening the abdomen the peritoneal cavity was filled with blood and the placenta lay in front of the left kidney. The rent extended laterally over both utero sacral folds into the pararectal pouch on either side while below it reached the lowest limit of the pouch of Douglas.

As the case had been delivered under insanitary conditions in the home, total hysterectomy was performed and both vaginal and abdominal drainage was used. While the etiology of this rupture is obscure it would appear to have been spontaneous as the physician used only very slight force in turning the occiput anteriorly. C. D. HOSKINS.

Example. Pregnancy and Labor Complicated by Ovarian Cysts (*Zur Frage der Schwangerschaft und Geburtskomplikation durch Ovarialzysten mit Beschreibung eines Falles von ruptur spontanen cystarum ovarii sub partu*) *Med. Rundschau* 9, 3, IV, 334.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

According to the statistics of the Berlin Gynecological Clinic five cases of ovarian cyst occurred in 753 labors according to the University Lying Hospital of St. Petersburg in 1895. Fehling says these are caused by displacement and tension in the ovaries and according to the writer another cause is the frequent interruption of pregnancy by ovarian tumors. According to Harrison, rupture occurs in 4 per cent of cases of pregnancy according to Williams in 3.4 per cent of cases of pregnancy and in 8 per cent of cases of labor. The causes of rupture are suppuration, adhesion of the pressure by the enlarging uterus, softening of the cyst wall, trauma, abortion forceps, and at times the action of labor pains. The prognosis depends on the nature of the cyst contents, recovery being the rule where this is serous, and less when it is not, peritonitis and death.

As to whether an operation should be performed during pregnancy or during labor the author inclines toward the latter as the danger of toxic secondary hemorrhages is too great during the course of pregnancy. It is only then indicated if dense adhesions exist between tumor and uterus. If the pelvis is markedly contracted, the method of choice is the abdominal or vaginal radical operation. Paracentesis of the cyst and the induction of abortion might also be considered. Abdominal ovariectomy during pregnancy has a mortality of 35 per cent, and causes an interruption of pregnancy in 61 per cent. The best results, according to Dehne, are obtained during the third or fourth

month. The vaginal operation (Dührssen) has a slightly lower maternal mortality than the abdominal operation however the number of interrupted pregnancies and the sacrifice of children is much larger. It is indicated in small movable cysts without adhesions. A list of literary references is given.

KARLST.

Beck. Multiple Sclerosis, Pregnancy and Labor (*Multiplex Sclerosis Schwangerschaft und Geburt*)

Deutsche Zeits. f. Gynäk., 9, 3, 1, 7.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Of the forty female multiple sclerosis patients treated in Tübingen, sixteen, or 40 per cent, attributed the onset of their disease to pregnancy and labor. Eight cases the disease commenced during pregnancy in four immediately following the birth of the child, and in four independently of pregnancy and labor. In seven cases the disease became aggravated during pregnancy and in seven shortly after delivery. In one case the onset occurred during the first pregnancy became aggravated in all five succeeding pregnancies and always improved shortly after delivery. In a second case the sclerosis became so aggravated during pregnancy that therapeutic abortion was induced followed by immediate improvement subjectively and objectively.

The interruption of pregnancy did not act as a trauma in these cases, contrary to the view of Edinger hence only the strain incident to labor can be taken into consideration as the exciting factor in the onset or in the course of the disease. On the contrary it appears that pregnancy considered by Oppenfeld as an exogenous etiological factor probably is of much greater significance than labor and the puerperium. Practically the prevention or interruption of pregnancy may be required in cases of multiple sclerosis, but definite rules at present must be formulated.

ELMORE.

Coutalre. Surgical Treatment of Hemorrhages Due to Separation of the Normally and Abnormally Situated Placentae (*Traitement chirurgical des hémorragies par décollement du placenta normalement et vicieusement insérés*) *J. d. gynec.* 1899, 3, 2, 21.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The author presents a résumé of the teachings and methods of the French school. Under surgical treatment the author understands hysterectomy and hysterotomy. In severe hemorrhages due to low implantation of the placenta the author prefers wide opening of the membranes, insertion of a Champetier bag or Brixi. He also resorts to surgical procedures. He gives statistics from numerous institutions of France. After subtracting the cases brought in in extremis, a 4 per cent maternal mortality is recorded. The principal danger is not hemorrhage, but sepsis. The high fetal mortality is due to prematurity. In the cases which offer hindrance to immediate delivery as rigid cervix and infection, surgical treatment must be considered.

Hysterectomy is preferred in infected or suspicious cases otherwise transperitoneal or Caesarean section. Vaginal and suprapubic section are not employed.

With normally implanted placenta severe hemorrhages are rare. The author emphasizes the point that retro-placental apoplexy in these cases also happens the obstetrical methods of delivery if the os is soft and dilatable. Otherwise the surgical methods, hysterectomy or transperitoneal section, are better than former especially in cases of bloody infiltration of the uterine walls. Vaginal section is not recommended. *Scarron*

McDonald and Krieger: Bilateral and Multiple Ectopic Pregnancy. *J Am Med Ass.* 9:34, 766. By Surg. Gyner & Obst.

Bilateral and multiple ectopic pregnancies are classified as follows:

- (1) Bilateral ectopic pregnancy.
- (2) Simultaneous (a) different sites (b) one ovarian, one tubal.
- (3) Tubal pregnancy.
- (4) Simultaneous (a) different sites (b) two on one side and one on the other.

It is difficult always to discover whether cases of double ectopic pregnancy are true twin pregnancies. Many cases have been reported as such in pregnancy records in which one gestation has been retained in the uterus and another has been deposited in the same tube. Also cases have been reported in which the first as retained ectopic pregnancy and second tubal pregnancy occurred in the same tube. Several other combinations also have been seen and it is therefore difficult to state whether the fetuses in tubal pregnancies are really twins and if the same gestation is only repeated tubal pregnancy in which one conception has followed another in the same tube. Thirty-nine cases have been collected from the literature in which the evidence of tubal pregnancy is reasonable sure that is, the fetuses were either the same size and have terata or were nourished by single placentas or the careful history gave no other record of more than one synovial stalk. The latter is not very accurate evidence but it is the best available. The authors then report the cases of their own.

In the first case the patient, a 38 years old, had been suffering more or less for 12 months previous to operation. She had had several hemorrhages but the last one was the most severe. On opening the abdomen large quantities of partly coagulated and fluid blood were found. The uterus, ovaries and blood clot filled the pelvis and it was difficult to demonstrate the anatomical relations. The uterus was enlarged. The tumor masses on both sides and both ovaries were removed. Five days after the operation the uterus expelled an embryo the remains of the placental tissue and fetus. One of the ovaries contained corpora lutea. Both tubes were greatly enlarged and dilated. brownish-red material. Connected with each tube was a fetus. One fetus was preserved while the

other seemed to have undergone an arrest of growth. In the one farthest advanced fetus, the external ear, eyes and feet could be made out. In the other the lower limbs were well formed but the trunk and head as enclosed in connective tissue capsule. The second patient was 3 years old. She did not suffer great deal. She had had continuous flow of brownish watery fluid since the last menstrual period. At operation the abdomen was found to contain only a small amount of free, blood-stained turbid fluid. The left tube was bound down by new formed adhesions beneath the sigmoid. It was the seat of ectopic pregnancy. The right ovary was macerated and lay behind the uterus and was bound down by adhesions in the pelvis. A second ectopic pregnancy in the uterus was found there. The most initial diagnosis in this case was as follows: Double ectopic pregnancy. Chronic pelvic peritonitis. Decidual cells and chorionic villi shown by sections from the walls of the sac of each tube. Necrosis of the decidual tissue and thrombosis.

EDWARD L. CORNELL.

Minham: The Diagnosis and Treatment of Extra Uterine Pregnancy and Report of Over 100 Cases on Operative Cases (Die Diagnose und Therapie der Extrauterin-Gravidität, nach 100 Operationen über ein hiesiges Krankenhaus von Obermedizinalrath Dr. Theop. v. Leupner. 93, 1890).

B. Zentralblatt für Gynäk. Geburtsh. u. Gynäk.

The author reports 45 cases treated during the past five years. He discusses the etiology in regard to inflammation, age, number of pregnancies and one child sterility. For differential diagnosis he advises puncture of the uterus. Fowler's position, the uterine test and leukocyte count. He emphasizes the importance of the redness in cases of hematoma. He considers the danger of the procedure as insignificant. One hundred and eleven cases are brought in collapse frequently under mistake diagnosis.

The treatment of extra-uterine pregnancy is absolutely operative even in severe collapse. Minham operates by the laparotomy route and employs the vaginal incision only in support of the hematoma. The abdominal cavity is closed unless coming of blood necessitates laparotomy. The free blood in the abdomen is not removed during the laparotomy but all patients are placed in the Fowler position and it is removed a few days later by vaginal incision or puncture. Among the 45 cases the author had mortality of 0.5 per cent. The last 25 cases, no death occurred. Nothing new is mentioned in regard to after-treatment the remaining tube is not removed unless found diseased.

F. W. MINHAM.

McCann: A Primary Ovarian Pregnancy. *The Fourth Month.* *Proc. Roy. Soc. Med.* 9:14, 1916. *Obst. & Gynec. Sect.* 20. By Surg. Gyner & Obst.

In order to prove that pregnancy when advanced as ovary it is necessary to show that the

corresponding fallopian tube intact () that the ovary the same side be intact () that the fetal sac be connected with the uterus by the utero-ovarian ligament (4) that the tumor tissue be distributed in several portions of the sac (5) all The macroscopical appearance and natural relations of this specimen seemed to make it beyond doubt that this was true of a pregnancy.

The patient 3 years old and had no child 5 years old. Her health good. Menstruation was regular until 1 year ago when her periods ceased. Soon she began to have severe attacks of pain in the left lower abdomen. On May 20, 1902, she had large cystic swelling in the left lower quadrant extending as high as the umbilicus. On June the abdomen opened. The tumor as found to be ovarian in character and connected with the uterus by the utero-ovarian ligament and to the broad ligament by the mesometrium. The left fallopian tube was quite free from the tumor and normal appearance. The left side of the mass was cystic with the fetus as the upper part and the right Nothing abnormal was found in the right predaughters.

The specimen proved to be multilocular ovarian cyst consisting of two loculi. A septum separated these loculi from third and fourth loculi. A fetus of about the fourth month in the placenta. The upper surface of the cyst it was covered with layer of recent blood clot. The surface seen at the back of the specimen running between the loculi and the fetal sac represented the line of division of the entire tumor. The utero-ovarian ligament as directly connected with the fetal sac. The fetal sac consisted of an outer fibrous layer external to the amniotic lining but here it was in position with the cystic portion of the tumor ovarian tissue was seen. The microscopical sections. The relationship of the pedicle to the tumor and the fact that the utero-ovarian ligament as directly connected with the fetal sac provided the specimen to be an adoubted example of ovarian pregnancy. A functionally active portion of the left ovary must have become impregnated, and the growing ovum evidently formed as for itself in this situation. The specimen further demonstrated the possibility that ovarian pregnancy may occur in an ovary already the seat of cystic tumor. C. D. HOLLAND.

Wilson. A Contribution to the Study of Eclampsia as a Form of Possible Mammary Origin. *Am. J. Obst. Gynec.* N.Y. 1903, 1904, 1905.

By Surg. Gynec. & Obst.

In this article Wilson carefully reviews the knowledge of parturient pueria of cattle and reports the cases of eclampsia in women that have had treatment directed to the breasts. The assumption that the breasts are the seat of the etiological toxine. He compares the points of similarity between the bovine and human diseases, and concludes his very interesting article as follows:

Parturient pueria is a disease of the parturient

cow undoubtedly due to a powerful toxine in the blood having its origin in some perversion of the mammary secretion.

The mammary theory of eclampsia is based almost entirely on the pathological and clinical similarity of the two diseases.

1. There are however the following important differences:

a. Parturient pueria rarely attacks primiparous animals, while primiparity markedly predisposes to eclampsia.

b. Parturient pueria occurs almost entirely post partum eclampsia also no especial predilection for this period.

c. Parturient pueria increases in frequency in direct ratio with increased power in milk production. Much finding has been noted in eclampsia.

d. Sugar is an almost constant ingredient of the urine of parturient pueria but is rarely found in eclamptic urine.

4. The mammary theory of eclampsia is probably merely specious. At the same time it deserves careful and thorough investigation and offers an attractive field for study. At least it may prove to be the explanation of the occurrence of a small proportion of cases.

5. Such a investigation should include:

a. A careful pathological and clinical study of parturient pueria.

b. The determination of the toxic or non-toxic character of the colostrum of eclampsia.

c. The tentative trial, in properly selected cases of eclampsia, of the treatment by air or oxygen injection of the breasts, which at least has the undoubted advantage of being harmless.

N. SPENCER HEARD

Engelmann and Elpers. The Viscosity of the Blood in Eclampsia and Other Diseases of the Female Organism (Über das Verhalten der Blutviskosität bei der Eklampsie sowie bei anderen Erkrankungen des weiblichen Körpers). *Gynäk. Rundschau* 9, 3, 1903.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk. The determination of the viscosity of the blood was carried out with the apparatus of Hess. According to Hess, the viscosity of the blood of healthy non-pregnant women is 4, and according to Ohlwecker 4.35. In pregnancy Engelmann and Elpers found it to average 3.66 between the seventh and tenth months. It approaches the normal about ten days after labor. In eleven cases of eclampsia in which no treatment had been instituted, the average was 5.4 per cent increase.

A venesection of 560 ccm reduced it 7 per cent. The venesection as still more effective if followed by an infusion of 35 L of Ringer's solution which causes drop of 33 per cent. After infusion alone the viscosity decreased 5 per cent. The authors at the viscosity also of other diseases. In severe hemorrhages due to abortion, myomata and tubal pregnancy the viscosity was decreased most decidedly.

In prolonged hemorrhage due to fibroids (2.6) The usual loss of blood during labor had no influence. In six cases of placenta previa the viscosity was reduced to 3.73 only the newborn child, however showed an increase to 5.8. It is of value in the differential diagnosis of adnexal inflammation, an increase to 5.45 being observed in ten cases, whereas in ten cases of extra-uterine pregnancy it was always reduced to 3.73. **Buckwitt**

Lichtenstein. Further Experience with the Expectant Treatment of Eclampsia (Weiteres Erfahrungsgut mit der abwartenden Eklampsiebehandlung). *Deutsche Gesellschaft f. Gynäk. u. Heb., 9. J. Ma.*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author has again treated 91 cases by making venesection and using Stroganoff treatment. The maternal mortality was 5.5 per cent the infant mortality 37.3 per cent in tot. and 3.6 per cent of viable infant. Of the cases before labor 4 per cent were cured without interrupting the pregnancy. Seventy-four consecutive cases of eclampsia were cured without death in 6 months.

If the cases are arranged according to the scheme of Fromm and Freund then the expectant treatment has a higher mortality than the active treatment; this merely signifies, however, that early treatment is better than late. It does not decide which treatment is the more feasible. The total number of deaths gives the best criterion as to the more desirable method to pursue. In the expectant treatment the death-rate is only 1/4 to 1/5 and 4 per cent of the cases are cured before delivery. In other words, there is no indication for active treatment in eclampsia and it is to be abandoned in preference to the expectant.

Kroemer. Disturbance of Kidney Function in Eclampsia (Störung der Nierenfunktion bei Eklampsie). *Deutsche Gesellschaft f. Gynäk. u. Heb., 9. J. Ma.*

By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Kroemer reports on systematic examinations of urine in eclampsia with prodromal symptoms in pregnancy, labor and puerperium. Excluding the rare case without albumin, there is found a diminution of large amount of albumin and casts and oliguria with high specific gravity and retention of chlorides. The latter is present in every case with azotemia. The plotting of curve makes the prognosis much easier and offers reliable hints for the treatment. A sudden dropping of the curve shows threatened eclampsia as well as recurrence during the puerperium. By carefully watching this drop, Kroemer was able to combat the disturbances during the puerperium by means of venesection and the administration of larger quantities of water. The typical cases without albumin and with normal NCl excretion are the exception; they flee no prognosis and are treated by the Stroganoff method of treatment. Functional tests of eclamptic kidneys with phenolsulphobthalein confirmed the fact that

there was severe injury of the kidneys, since only 20 to 40 per cent of the dye substance was excreted in first 1 hour as to 5 per cent. In healthy pregnant women the quantity runs from 60 to 75 per cent. This test may possibly make up the link in the determining functional activity of the kidneys. Investigations regarding the toxicity of the urine of eclamptics according to the methods of Franks and Esch resulted negatively. The liquor cerebrospinalis was absolutely non-toxic, the serum unreliable.

Nacke. The Treatment of Eclampsia (Eklampsie-therapie). *Deutsche Gesellschaft f. Gynäk. u. Heb., 9. J. Ma.*

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Opinions differ widely in regard to the treatment of eclampsia. On the one hand is Freund, on the other Lichtenstein. The author himself had seventy-nine cases of eclampsia, with mortality rate of 3.3 per cent. His slogan is: deliver severe cases immediately, less severe cases as soon as possible. He considers those which secrete small amount of urine, have prolonged drowsiness and small rapid pulse, as severe. If attacks no prognostic importance to the quantity of albumin and to the number of convulsions. One case of severe eclampsia was delivered during the eighth month by means of vaginal Caesarean section and recovered the convulsions ceased and the asuria improved. Definite conclusions should not be drawn from such case however as milder cases ended fatally. One point, however he desires to emphasize in regard to operative delivery namely the uterus is liberated from the dangerous muscular tension and the reflex irritation; induces the pressure is removed from the abdominal vessels, especially those of the kidney; the diaphragm is allowed to recede, lungs and heart are not impeded, etc. The delivery therefore accomplishes the removal of great number of complicating conditions which alone may cause death, even about eclampsia. Nacke considers the operative treatment far superior to venesection.

Freund. The Treatment of Eclampsia (Zur Eklampsie-therapie). *Deutsche Gesellschaft f. Gynäk. u. Heb., 9. J. Ma.*

By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Between October 9 and April, 9 345 cases of eclampsia were treated expectantly (venesection and narcotics) at the Hpt. Charité in Leipzig. Four women died of eclampsia, four recovered during pregnancy. One severe case of eclampsia during the sixth month of pregnancy suddenly became worse during 48 hours of expectant treatment and the uterus was immediately evacuated by vaginal Caesarean section. The fetal mortality has been considerably by this method especially in eclampsia during pregnancy and early stages of labor. It was 4.9 per cent compared to 7 per cent in early delivery excluding cases of puerperal eclampsia. Therefore it is still undecided which of

the loss of calci in incident thereto. The success obtained with the modern method of treatment of tetany does not necessitate the prevention of conception or the interruption of pregnancy JAMA.

LABOR AND ITS COMPLICATIONS

Ternaghi: Fever During Delivery; Obstetric Indications for Its Treatment (*Febre in tra aglio. Criteri che guidano la condotta del Partecista*) *Arch. intern.* 9, 3, xiv, 70

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The author reports the case of primipara labor normal in every respect except that her temperature was 39 C and the child was presented by the breech. After child delivery was finished by aid of the forceps and breech hook. The pulse varied from 60 to 100 and the fever disappeared a few hours after delivery.

The author considers the case one of fever due to intoxication. As differential point between infection and intoxication, he places great stress upon the pulse. A temperature of 38° can be considered physiological on account of the uterine activity. Temperature before rupture of the membranes is rare. If it drops immediately after the case is probably one of intoxication, otherwise it must be considered as an infection, especially if there has been operative interference under uncertain asepsis. Intoxicative fever is indication of rupture of the membranes and spontaneous delivery whereas in infectious rapid delivery is indicated. Injuries are to be coded as are also infection of the cervix and epistomium. Versus after the membranes have ruptured as contra-indicated on account of danger of rupture of the terms the author prefers perforation, even of the living child. High forceps is to be coded. The infant dies frequently during the first few days of umbilical infection or pneumonia. SCHW.

Kuimlin: Pelvic Outlet Tumors Hindrance to Child Birth (*Über Beckenausgangstumoren als Geburtshindernisse*) *Monatsschr. f. Gyn.* 9, 3, 343

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

In the two reported cases spontaneous delivery was impossible, due to a tumor in the birth-canal.

In the first case the diagnosis of carcinoma of the ovary was made. The tumor was located in the paravaginal tissue in the wall between the vagina and rectum. The clinical and microscopical examination showed it to be due to congenital anomaly of the left Müllerian duct in its upper third. The ovary remains in its original position, external to the lumbar vertebrae. The carcinoma most likely began here and after it had grown in size it slipped down into the pelvis. The tumor was removed per rectum and the child delivered with forceps.

Case proved to be submucous fibroid of the posterior lip of the os uteri. The tumor was removed per vaginam and this child also was delivered with forceps. KUIMLIN.

Ziegler: What Can Be Accomplished with the Method of Deventer Müller for the Delivery of the Shoulders (*Was leistet das Deventer Müller'sche Entbindungsverfahren des Schultergürtels*) *Beitr. z. Geburtsh. Gynäk.* 9, 3, 16, 7

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The two stages of the Deventer Müller method for the delivery of the shoulders are simplicity and rapidity of execution even for the inexperienced, and less danger of infection and injury to mother and child. The disadvantages consist in danger of severe injury to cervical spine naturally caused only by carelessness or by forced application of the maneuver in severe distoclia. The greatest importance lies not in the application of the method for the delivery of the arms, but of the shoulders. If the arms are flexed they are delivered simultaneously with the shoulders. If they are extended the upper arm becomes so easily accessible that high traction on them will deliver them. Only when they lie in the nape of the neck may delivery by this method become very difficult or impossible. Von Herz considers the expression of the child by an assistant as essential to retain the flexed position of the arms and head.

The author is able to report 30 cases to date in which this method of delivery was used at the Basel clinic, with only 5 per cent of fractures as compared to 8 per cent in 5 cases delivered by the usual methods. Detailed statistics of maternal mortality and morbidity as well as fetal mortality cannot be given at the present time, but the figures all speak in favor of the Deventer Müller method. SCHW.

Zangemeister: A Manuever for the Correction of Face Presentation (*Handgriff zur Überwindung der Gesichtslage*) *Deutsche Grenzsch. f. Gynäk. Heilk.* 9, 3, May

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

The author desires to present a new manuever for the correction of a face presentation. It is based on former methods yet in its combination possesses something individual and, that is more important, serves to purpose in much simpler and protective manner. It is as follows: The hand corresponding to the face (in ment. latero anterior the left) is inserted up to and alongside of the chin, the thumb is hooked into the mouth and the fingers are laid upon the thorax. The chin is pushed up and by the thumb and the tips of the four fingers force the chest toward the mother's back while the outer hand forces the buttocks to and the hind abdomen. It will be seen that with this manuever the correction of the body position as well as the rotation of the head can be carried out with two hands, whereas another person is necessary to carry out the Thoen manuever. In addition the hand is inserted into that side of the lower uterine segment which is stretched the least.

The author employed this manuever in a series of cases. The correction was accomplished very easily.

That it is not always successful is due to conditions. As the omentum is considerably drawn out, primary face presentations and the position of the breech rather than the breech one there may be a recurrence of the face presentation after correction. In one case the correct one failed on account of a fatal rupture of existing meningocele. But that was a case surely not adapted to correction. The author does not deem it advisable to try the maneuver in every case if a presentation is but under certain conditions he considers it a very advisable procedure for the benefit of mother and child.

Rizomachus. Death Due to Rupture of Oesophageal Varices Occurring During Labor (*Morte d'une parturiente par rupture d'arterio-veineuses. Gynaecologie et accouchement*). *Revue Méd.* 1903, 3, 274, 30.

By Zentralbl. f. d. ges. Gynäk. (Geburtsh. u. Gynäk.)

The patient, 30 years of age, was admitted to the hospital at the fourth pregnancy. She complained of burning in the throat and of parasthesias in the hands. She appeared dull and melancholy. A few days before delivery hemorrhage of the gums occurred, and ten days later severe hæmatemesis. The delivery was difficult. The presentation was a breech presentation. The blood deep asph. stated attempts to resuscitate failed in failure. The woman suffered several more attacks of hæmatemesis and finally died shortly after delivery.

At the time the hemorrhage was found to be the normal one, the blood was altered. The liver was enlarged. The spleen increased. The kidneys were normal. Numerous varicose dilatations were found in the oesophagus and in the stomach. A large amount of black blood was found in the stomach and oesophagus. The direct cause of death was the hemorrhage from the oesophageal veins.

BARRELEW.

Lange. Fatal Intraperitoneal Hemorrhage During Labor Due to Rupture of the Uterine Veins (Intraperitoneale A. r. h. uterine intra partum ruptio). *Archiv für Gynaecologie und Geburtshilfe*. 1903, 3, 274, 30.

By Zentralbl. f. d. ges. Gynäk. (Geburtsh. u. Gynäk.)

This is the report of a case of rupture of the uterine veins during labor in a bipara 3 years old. The labor began six weeks before term. Several pains were suddenly felt in the abdomen about fifteen hours later with sensation of an internal rupture. Seven hours after the attack severe syncope with loss of blood took place. When medical assistance reached the patient the abdomen was very tense and hard. The uterus could not be distinctly outlined. The fetus was not plainly palpable but the fetal heart could be heard. The patient was pale and the pulse was gone. A foot was brought down to accelerate labor and the escaping amniotic fluid as free of blood. Symptoms of internal hemorrhage existed with dullness in the lower left abdominal region. An exploratory

puncture revealed the presence of clear blood. On immediately opening the abdominal cavity a large amount of blood was found free in the peritoneal cavity. The blood was flowing in a thick stream from a perforation in the uterine serosa which was the size of a dime and located at about the level of the uterine os at the left lateral posterior border of the uterus. The child was dead. A supravaginal amputation of the uterus was performed. The patient died two hours afterwards.

Besides severe anemia of all the organs nothing else was found at autopsy. A sound introduced into the perforation of the uterine serosa entered an open blood vessel. Pathological changes could not be recognized in this defective area. Serial sections show rupture of large thin-walled varicose vein loops situated underneath the serosa. The varicose enlargement plus the pressure caused by the labor must be considered the etiological factor of the rupture.

Similar cases are reported in literature. A differential diagnosis must be made from rupture of the uterus rupture of extra-uterine pregnancy (combination of an intra-uterine with an extra-uterine pregnancy) or gravidity in an accessory corn. Premature detachment of normally inserted placenta and rupture of blood vessels in the region of the spine or near the uterus. To enable one to recognize such cases the author recommends paracentesis with a fine cannula.

ERASMUS.

Reinhard. Medical Treatment for Weak Labor During Parturition (*Die medikamentöse Behandlung der Wehenmangel während der Geburt*). *Deutsche med. Wochenschr.* 1903, 29, 200, 747.

By Zentralbl. f. d. ges. Gynäk. (Geburtsh. u. Gynäk.)

Experiments with coffee and caffeine have failed to increase labor. Reinhard used putridin, which had no effect in three cases and caused lasting contractions which endangered the life of the child in three others. Pituitrin gave good results in seventeen cases and failed in three. It caused tetanus ten times, fifteen mal uterine contractions. Scale-dialysat Golas given in doses of 5 gm. and eventually given repeatedly gave good results in eleven cases and no in two cases. It never caused tonic contractions. The scarcity and weakness of labor is mainly influenced, not the duration.

MOORE.

Vogelsberger. The Galvanization Treatment of the Uterus According to Bayer in Connection with Pituitrin as Means for the Artificial Induction of Premature Labor and Labor at Term (*Über Galvanisationsbehandlung des Uterus nach Bayer in Verbindung mit Pituitrin, als Mittel zur künstlichen Einleitung reiferer und unreiferer Geburt*). *Med. Wochenschr.* 1903, 29, 630.

By Zentralbl. f. d. ges. Gynäk. (Geburtsh. u. Gynäk.)

The author recommends galvanization of the uterus in combination with pituitrin for the artificial induction of premature labor. The procedure was carried out in 3 cases. Any transportable battery

is sufficient. A current of 10-30 M.A. is necessary. A cathode, a sound-like electrode, is introduced high into the cervix. The node is in the shape of plate and is laid on the abdomen over the fundus and sides of the uterus and is moved until contraction is produced. A few minutes rest and the procedure is repeated. If no spontaneous contractions result in 30-30 minutes an interval of two hours is allowed to pass. If no spontaneous contractions set in during the first session we must conclude that no excitability exists on that day and repeat the treatment. A vaginal douche with tincture is given before galvanization as the mucous membrane offers protection against possible burns.

Pituitrin in conjunction with galvanization is not advised at the onset as a contraction of the cervix occurred in three cases, similar to action without galvanization. Therefore pituitrin should not be used until cervical dilatation of at least three fingers is present. In abortions the cervix must be completely effaced. Then with cm of pituitrin the progress is hastened considerably. Four cases of miscarriage and six premature labors are treated. It killed only two of the artificially induced abortions. The cause for the failure is the low excitability of the uterus in the middle months of pregnancy. As rule only two to three sessions were necessary. In one instance 10 sessions were required. Powerful contractions set in spontaneously increased by pituitrin till delivery occurred. In three cases pituitrin as not necessary at all. Labor lasted 1-48 hours. In one case 1/16 days.

The indication in most cases is premature rupture of the membranes without contractions following. There are no disadvantages to the galvanization method. Its advantages over the older methods are: It guarantees normal labor because the stimulation with galvanization is similar to the physiological stimulation. There is less danger of infection than in intra-uterine manipulations or in blocking the secretions as in supposing Rober.

Kehrer: Subcutaneous Symphysiotomy of Frank. Die subcutane Symphysektomie von Frank. Arch. Gynäk. 93, 1917, 204.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Kehrer reports in detail ten cases treated with the subcutaneous symphysiotomy of Frank and emphasizes the technique. As result of the operation, the symphysis separates 1-3 cm. To prevent injury to the erectile tissue the author in the future intends to divide the hygienium and the crura clitoridis with double edged knife close to the bone for distance of 1 cm on both sides. The advantages over beboetomy are also all, the prevention of injury to the bladder with resulting vesico-labial fistula, urinary infiltration of the connective tissue, smaller symphyseal hematoma, prevention of callous formation with resulting contraction, permanent enlargement of the transverse diameter of the pelvis and firm cartilaginous union. The disadvantages are the transient edema of the

valva extending from the hematoma, which may prolong convalescence indefinitely. To prevent their formation Kehrer advises early rising of the patient. All general contracted and flat rachitic pelvis (c. v. over 6.8 cm.) in anterior as well as posterior positions, oblique or transverse positions with prolapse of cord or extremity and brow presentations are the indications for this operation. The child must be at term and alive. Spontaneous expulsion is to be expected but pituitrin is administered when the pains are weak.

The operation is contra-indicated in infected cases and where infection is suspected. It contraindicates upon the fields of the classical Cesarean section, extraperitoneal section, high forceps, perforation of the living child, prophylactic version and premature labor. The last four operations mentioned are not to be considered for obvious reasons. The operation can be performed under ether, chloroform or sacral anesthesia. The results in regard to the patient's ability to walk are excellent. The mortality in eighty-eight cases found in literature was zero for mother and child.

Klaus HOFFMANN

PUERPERIUM AND ITS COMPLICATIONS

Jardine and Kennedy: Three Cases of Symmetrical Necrosis of the Cortex of the Kidneys Associated with Puerperal Eclampsia and Suppression of Urin. Lancet, Lond. 93, March 1917.
By Surg. Gyneec. & Obst.

The authors give the clinical histories of their cases and describe the pathological findings. The first patient showed all the symptoms of eclampsia except convulsions. The second patient had only one convulsion. All three were delivered prematurely and only one case was a live child born.

The kidneys, both appeared to have been healthy organs, were the seat of symmetrical necrosis of the cortex. The necrosis was more or less limited to the outer two thirds of the cortex, and in degree corresponded to the suppression of the urine. There was extensive thrombosis of the cortical blood vessels which did not extend beyond the margin of the necrotic area and did not involve the vascular arches.

C. H. D. M.

Rühmann: Clinical and Experimental Investigations Concerning the Action of Oxytocic Substances During the Puerperium (Klinisch-experimentelle Untersuchungen über die Wirkung der Weichenmittel in der Nachgeburtsperiode). Mischchen und Hirschfeld. 1917, 67.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The type of the contractions of the uterus and the influence of oxytocic substances upon its motor function can be studied very graphically during pregnancy and labor but no such investigations have been carried out as yet during the puerperium. Rühmann has been successful in devising a method for the determination of the motor function of the fresh puerperal uterus. According to him the post-

partum movements of the uterus are in the form of contractions.

On the basis of his studies with glandutrin, pituitrin and pituitrin he concludes that the post partum contractions are influenced powerfully by those substances, especially in the case of the organ. Contractions are obtained within four to six minutes following intramuscular injection and within ten to thirty seconds following intravenous injection. This also in those cases in which no contractions could be elicited by the usual methods. In six cases of severe atony as well as in ten mild cases the hemorrhage was controlled with intravenous injection of glandutrin alone. The author hopes that all intra-uterine manipulations will eventually be discarded in favor of the use of hypophyseal extract on account of the danger of infection. It is possible also under normal conditions to decrease the physiological placental hemorrhage by giving an injection of extract of the hypophysis.

The author shows in a conclusive manner the value of the prophylactic method. In six cases of placenta previa and fourteen cases of classical Cesarean section, the contraction of pituitrin the action of secocornal occurs only after twenty or thirty minutes and its maximum action is not attained until one and one half hours after administration. Similar or even inferior action are other ergot preparations. Ergot increases only the intensity of the contractions; it does not shorten the period immediately as does pituitrin. Hemorrhages occur during the interval and not during the contractions. The author's investigations, therefore, prove that secocornal alone does not influence uterine hemorrhages. SCHMIDT.

Hoffman. Differential Diagnosis and Treatment of Puerperal Infection. *Proc. A. S. S. N. O. G. S.* 1915. By Surg. Gynec. & Obst.

The author emphasizes the desirability of exactly locating the puerperal infection. If some intra-abdominal condition is strongly suspected, the author believes an exploratory incision should be made in order to palpate the ovarian veins, etc.

Treatment. The most important barrier against infection is healthy patient in other words, a woman should be under the care of physician from the beginning of pregnancy. The author condemns the use of the curette and removes retained placental tissue only when the uterus is soft and baggy; this he does carefully with the finger. He drains local abscesses and peritonitis cases early and keeps the patient in the sitting posture and out of doors all the time. EUGENE CAR.

Schweitzer. Prophylaxis of Puerperal Infection (Zur Prophylaxe puerperaler Infektion). *Deutsche Gesellschaft f. Gynäk. Halle*, 1915. May. By Zentralbl. f. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

In spite of all the precautions taken to prevent the occurrence of an external infection in the puerperal woman, there are, nevertheless, a fair number of

infectious cases of which an autogenous origin must be assumed. It occurs usually in those cases which during pregnancy had a pathological vaginal secretion. The author advises a prolonged douche treatment before labor in all women with such a secretion. Lactic acid is used in 1/2 per cent solution. This inhibits the growth of cocci and most pathogenic bacteria. The cood after daily douches are gradually replaced by the normal flora of the vagina. After daily douches for ten days the pathological secretion gradually returned to normal in 90 per cent of the cases. 80 per cent of those harboring the streptococci became free of this organism. The bacilli which replace the pathological germs are acid resisting and acid-producing organisms, which augment and continue the action of the lactic acid. Concentrated solutions of lactic acid and other antiseptics only injure the secreting portion of the vagina and are not beneficial.

Among 1,000 women who remained in the clinic some time before delivery there was a morbidity of 1 per cent excluding those who had only a few douches (11 douches daily for ten days being considered as necessary) the morbidity was 7.3 per cent. 7.1 per cent in cases with normal vaginal secretion and 30-40 per cent in cases with pathological secretions. The author therefore attributes this reduction in morbidity to the beneficial action of the 1/2 per cent lactic acid douches, and advises its use as prophylactic in the latter days of pregnancy.

Stoddard. Puerperal Insanity. *Clinical J.* 1915. By Surg., Gynec. & Obst.

In this article Stoddard discusses insanity occurring in the puerperium but he believes that puerperal insanity is misnomer. It is his belief that there is no complex of symptoms that would lead one to diagnose puerperal insanity if he did not know of the existence of a recent delivery. This kind of insanity usually occurs in persons predisposed to mental disorder or may be caused by intoxication or infection and he calls it intoxication or infection psychosis or acute confusional insanity. Patients who usually develop mania or melancholia are troubled with the constitutional psychosis, and heredity plays a part in about seventy per cent.

In the treatment of septic cases serum therapy is used, but it seems to have little control over the mental condition. Breast feeding should be stopped and the milk dried up in all cases. Rest in bed, proper feeding, and narcotics for sleep are all necessary. EUGENE CAR.

MISCELLANEOUS

Fromm. The Relations of Affections of the Heart to Pregnancy, Delivery and Puerperium (Die Beziehungen der Erkrankungen des Herzens zu Schwangerschaft, Geburt und Wochenbett). *Deutsche Gesellschaft f. Gynäk.*, Halle, 1915. May.

By Surg. Gynec. & Obst. There is no proof for the teaching that the heart hypertrophies in normal pregnancy. The heart is

placenta give very strong reactions. One case gave negative result, but the foetus had been dead for from three to four weeks, and the reaction does not last that long.

J. R. MINNEN

Schlimpert. Experimental Research in the Physiology of the Hypophysis (Experimentelle Untersuchungen zur Physiologie der Hypophyse). Deutsche Gesellschaft f. Gynäk., Halle, 9. 3. May.

By Surg. Gynec. & Obst.

Examinations were made in the rabbit's ear according to Bismmaki's method. In the month of pregnancy could an increase of hypophysin be demonstrated. Hypophysin is only found in the posterior lobe. Extracts of other parts of the brain developmentally connected with hypophysis gave no reaction. By the method employed, the hypophysin was demonstrated in bovine embryos as early as the tenth week in man from the sixth month on. In such experiments the action of histamin, a product of putrefaction, must be excluded.

J. R. MINNEN

Bassett. Clinical Experiences with Pituitrin (Klinische Erfahrungen mit Pituitrin). Med. Klin., 9. 3. 1937.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

In 10 cases, following the use of pituitrin, weak pains were strengthened and tetanic contractions, which had ceased, began again. This took place three to ten minutes after injection, and its action lasted from two to two and a half hours. Usually the length of labor was very short. The danger of tetanus is less in pituitrin than with pituitrin. Pituitrin can be given to primipara and multipara where there is little dilation of the cervix, and where the head is floating above the brim of the pelvis, if the soft parts are not too rigid and the relationship between the size of the head and the size of the pelvis is normal. Cumulative action and secondary weakening of uterine contraction do not occur. Intravenous injections are dangerous. They can not be depended on to bring about an abortion, but after uterine contractions have begun, and in an incomplete abortion, they give good results. In three cases of full-term pregnancy, labor and delivery followed injection of pituitrin.

WETZEL

Zandfingral. Organotherapeutic Value of Adrenalin in Pregnancy (Organoterapeutische Wert des Adrenalins in der Schwangerschaft). Deutsche Gesellschaft f. Gynäk. u. Geburtsh., München 9. 3. 1937.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

The author cites fifty cases in which there were good results following the treatment of severe cases of vomiting of pregnancy with adrenalin. The results depend on the quality of adrenalin used. The treatment is commenced with twenty to thirty drops of adrenalin hydrochloride daily, increasing the dose three to ten drops daily until improvement sets in. In very severe cases the dosage is increased to eighty one hundred drops daily. When the symptoms are lessened and the condition is im-

proved, the dose is gradually decreased. The duration of the entire treatment is twenty to thirty days. There have been no complications or serious after-effects on uterus or foetus following this treatment, even in those very serious cases where four to five mg. of adrenalin were administered daily.

SIMON

Zienk. The Value of the Caput Succedaneum as a Sign of "Vital Reaction" (Die Bedeutung der Kopfschwulst als Zeichen der vitalen Reaktion). Wochenschr. f. gerichtl. Med., 9. 3. 1937. Suppl. No. 5.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The author placed isolated leeches and between them Blier pumps and periodically exerted powerful suction on the entire surface of the body of a dead foetus in order to determine whether the caput could be formed in a dead foetus. These areas were then examined macro- and microscopically and resembled in every way the sections of the caput.

VOCUR

Koch. Modern Ecbolectin, with Special Reference to B-Imidazolythylamin (Kritische Betrachtung zur Frage unserer modernen Wehenmittel mit besonderer Berücksichtigung des B-Imidazolythylamins). Zentralbl. f. Gynäk. 9. 3. 1937. 504.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

Koch finds beta-imidazolythylamin (histamin) much like pituitrin. On injection of 1/4 mg. into the perito, pronounced labor-pains soon developed. The hemorrhage would stop but in the course of 10-20 hours the uterus would again become inert and the hemorrhage so pronounced that second injection would be necessary.

A rapid involution of the uterus was brought about during puerperium by giving 6 drops of a 1:500 solution of the drug three times daily. He treated thirty-three patients, twenty-five women having injections during labor (maximum dose 1 mg.). Secondary reactions were noticed in 10 per cent of the cases. These were headache, parched mouth, palpitation, etc. The inertia uteri occurred in three cases, in two of which the patient became very pronounced, but the author has had similar experiences with pituitrin. He had three cases of intra-partum death in pituitrin medication, two of which were due to the stormy contractions of the uterus.

WIMMER

Denniger. Pelvic Measurement by Means of X Rays (Beitrag zur röntgenologischen Beckenmessung). Deutsche Gesellschaft f. Gynäk. u. Geburtsh., München 9. 3. May.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Denniger and Kehrner describe an apparatus with which they are able to take measurements of any internal point of organs. They realized the inability to measure distances by one picture, even though all the different points are on the plate. They connected the focus of the tube and the two pictures taken, with two threads, which cross each

other. The picture is taken from two different points, and the exact distance can be read off by means of these threads. The pictures can be taken from any angle. The apparatus is adapted not only to taking pelvic measurement, but also for determining the size of organs or the distance of any two points within the body. It is simple in construction.

Perrando The Significance of Meconium in Dissections of the New-born (Del meconio rispetto agli indizi che ne sono desumibili necroscopici dal neonato) *Riforma med.* 913 XXX, 3-5.

By Zentrallbl. f. d. ges. Gynäk. Geburtsh. u. d. Gynäc.

The meconium is doubtless of great importance in forensic post-mortem autopsies. Its variety may allow conclusions as to the age of the foetus. In stillborn children more or less meconium is found in the liquor amni. The colon may be absolutely empty, this being caused by direct pressure more often than by disease, by monstrosities and injuries of the entral nervous system. With trends of the intestines there is no meconium in the lower portions of the intestines above the lower portions, it has a specific character and is of pathological importance for congenital atresia of the bowels.

Maceration does not cause any particular changes in the meconium and its elements can be differentiated up to the second and third stage. The meconium is quickly emptied, though not without exceptions, in foetuses that died few days after parturition.

BRUNNEN

Franz The Toxicity of the Urine During Pregnancy Labor and Puerperium (Über die Giftigkeit des Harnes in Schwangerschaft, Geburt und Wochenbett) *Deutsche Gesellschaft f. Gynäk. Heilk.* 9, May.

By Zentrallbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäc.

On the basis of numerous investigations the author concludes that the urine of healthy pregnant women is not more toxic than the urine of non-pregnant women, and that in many cases the urine is more toxic during labor than during the puerperium. During the puerperium it is slightly more toxic than during pregnancy. The urine is highly toxic in toxemias of pregnancy, and especially in eclampsia. Each and Zimmer have lately confirmed these findings, although each only occasionally noted drop in temperature due to the toxicity of the urine, whereas the author observed it quite frequently. The urine in fatal cases of eclampsia is less toxic because of the retention of the toxic substances, the result of injury to the kidneys or to an incomplete metabolism in which the albumin products are not split up completely. To draw valuable conclusions from this work the urine of the individual case must be examined repeatedly during pregnancy to determine the relative toxicity of that urine, and so become aware of dangers when they arise. The clinical picture must always be considered, and especially the kidney function of the patient.

Fowler Lower Arm Type of Obstetric (Brachial) Paralysis: Report of a Case. *Internat. J. Surg.* 9, 3, 1911, p. 6. By Surg. Gynec. & Obst.

The case reported was that of a girl three years old who had a paralysis involving the fore-arm. The condition had been present since birth and had followed forcible traction on the arm by the midwife in attendance. The radial head was found dislocated. The hand was fixed at the wrist with slight ulnar deviation, the thumb was adducted and extended. There was hyperextension of the proximal phalanges, the distal phalanges were fixed upon the proximal. Diagnosis: musculo-spiral and ulnar paralysis.

The causes of this condition are several. The most common is tension on the nerve roots during delivery. It may occur in either breech or vertex cases. When the head is hyperextended the nerves are put on a stretch and traction may very easily overstretch them.

The treatment should be surgical and is necessarily procedure of some magnitude. The general condition of the child should be carefully considered before attempting the operation. Operations which may be performed are: (1) Nerve implantation, (2) excision of damaged nerve tissue followed by suture, and (3) plastic operations for contracture deformities.

J. H. SMITH

Maiselmann The Origin of the Syncytial Layer in Human Ovary (Die Entstehung der Syncytialschicht aus jungen menschlichen Eiern) *Deutsche Gesellschaft f. Gynäk. Heilk.* 9, 12, May.

By Zentrallbl. f. d. ges. Gynäk. Geburtsh. u. d. Gynäc.

Human ovum, early in the second month, were serially sectioned ($\frac{1}{16}$ to $\frac{1}{3}$). The proliferating Langhans cells penetrate into the decidual basalis as anastomosing syncytial trabeculae. In this way the highly complex net work of syncytial tissue arises. The maternal tissue in these projections dies off as a result of the chromocystin and the refuse is carried away by the blood and lymph. Circumscribed parts of the syncytium may increase in the plasma and amniotic fluid division may be present. The masses are then no longer in the place, but are surrounded by a delicate syncytial net work, but develop into cavernous that are surrounded more or less by syncytial membrane.

As soon as the human ovum becomes implanted, this syncytial system begins to develop. Then the tryptic cells of the mucosa function and the refuse of the maternal tissue is carried away by the blood and lymph streams, thus the whole organism becomes affected.

Gerstenberg Remarks on Rottger's Method of Treating Contracted Pelvis (Beobachtungen an Heutrich Rottger's Verfahren zur Verkleinerung des Beckens) *Zentrallbl. f. Gynäk.* 9, 3, 1911, 402.

By Zentrallbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäc.

The chiseling off of a piece of the promontory of a contracted pelvis to the extent of $\frac{1}{16}$ to $\frac{1}{8}$ cm.

according to the method of Rotter-Schmid is a rather serious procedure for static reasons. Gerstenberg found in skeletonized pelvis after operation an average increase of .83 and .73 cm. respectively for the sagittal measures of the lower surface of the fifth lumbar and the upper surface of the first sacral vertebra. During operations on fresh cadavers the author found confined and serious hemorrhages from the first sacral vertebra. The anterior longitudinal ligament is especially broad in this region and a considerable portion is left behind on both sides after the operation. The procedure lengthens the true conjugate and also in certain sense, the transverse diameter. In the delivery the head is not pushed far forward by the decreased promontory and, therefore, does not enter the pelvis through the more anteriorly situated smaller transverse diameter as under ordinary conditions, but through the larger transverse diameter. The shortest anterior-posterior diameter now runs from the lower edge of the chancelled foramen of the promontory (middle of the first sacral vertebra) to the symphysis. If the former true conjugate is seven centimeters, then the new conjugate is still so small that serious hindrance during labor is to be expected. Therefore, the operation should not be performed in pelvis with a conjugata vera less than 8.5 cm. It is of advantage only in connection with induced premature labor. WAGNER.

Kriwsky. Concerning Hebosteotomy (Zur Frage von der Hebosteotomie). *Monatschr. f. Geburtsh. u. Gynäk.*, 9 3, xxviii, 435.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

After a minute discussion of the views of different authors on hebosteotomy its behavior after the division of the pubis, the character of pelvic union, permanent widening and retraction of the procedure several times on the same person, the author presents his conclusions based on personal experience, on clinical observations and literary data, adding two histories. Hebosteotomy does not represent a cure-all for contracted pelvis but takes a fixed place amongst obstetrical operations. Within certain limits hebosteotomy is comparatively free of danger and the operation of choice in multipara with slight degree of contracted pelvis. The conjugata vera should not be below 7 cm. 3. The experiences gained from case reports permit us to perform hebosteotomy also in primipara even in an emergency if otherwise perforation of the living child only could come in question and other methods of delivery as Caesarean section cannot be employed. It is self-evident that in these cases the condition of the soft parts must be especially considered and that prophylactic measures, as Schuchardt paravaginal cesarean incision according to the proposition of Van der Velde, must be used.

4. The least dangerous method is Döderlein's. 5. Labor must be immediately terminated by a corresponding obstetrical operation after hebosteotomy. 6. The after treatment does not demand any special appliances, an early lateral position is to be recommended. 7. Union of the separated bones takes place very soon, either a bony or connective tissue cicatrix being formed. 8. A permanent widening of the pelvis by a lengthening of its diameter or by increase in elasticity frequently does not take place which represents a disadvantage of a hebosteotomy. 9. The mode of delivery necessary in subsequent labors remains undecided even if hebosteotomy had been performed several times in the same patient. HORN.

Fraenkel. Investigations in Regard to the So-Called Gland Endocrine Myometrial (Untersuchungen über die sogenannte Glandendocrine myometriale). *Arch. f. Gynäk.* 9 3, xxx, 3.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author was able to corroborate the findings of Ancel and Boudin in regard to the presence of the gland endocrine myometriale (gland with an internal secretion in the myometrium). The author's investigations were conducted on the uteri of pregnant guinea pigs. The structure consists of nests or strandlike cell groups within the inner circular muscle layer of the uterus in the neighborhood of the placental site. These cells, 5 to 37 μ in length, vary in form, being spindle shaped, three cornered or polygonal with granular protoplasm and no cell membrane. The round nuclei are mostly small (2 to 6 μ) and centrally located, without definite chromatic figures. These cells lie either singly in these clefts, lymph spaces in larger groups between muscle fasciculi. In the mucous membrane and in the outer longitudinal layer they are found only rarely. With the von Gieson stain they are sharply differentiated from the muscle fibres and connective tissue, the cells being dark brown with the nuclei dark blue.

They have been found between the twenty first and twenty-sixth days of pregnancy only, and then not constantly. In regard to their histogenesis nothing definite can be stated. Morphologically they are different from the placental wandering and giant cells. Being confined to the placental area and the retro-placental muscular layer as well as occasionally to the decidua, they have migrated from the placenta to the syndetial wandering cells. The vascular relation of these nests proves they are not of glandular nature. In contradistinction to other glands with internal secretion, capillaries are found only in small umbels between the cells. The functional significance of these cells is, therefore, still in doubt. SCHWELER.

GENITO-URINARY SURGERY

KIDNEY AND URETER

Smith Bilateral Nephrolithiasis. *N Y M J*
93, xxvii, 151. By Surg. Gynec. & Obst.

The author states that he performed successfully seventeen bilateral nephrolithotomies in cases of bilateral nephrolithiasis, with the technique given below. The operations are performed under nitrous-oxide-oxygen-ether anesthesia, either in sequence or the three merged to meet the immediate conditions. He placed the patients laterally, nearly prone on the table, and elevated the kidney area by

Cunningham's attachment. An incision is made in the lumbar region. The renal vessels were held by the fingers during the kidney incision, and subsequent manipulations. Drainage of the kidney was employed. The hemispheres were approximated by three ligatures carried around the kidney and tied, leaving on suture material in the kidney substance, following the advice of Moore. The author believes that it is often desirable to incise the kidney pelvis when the radiograph shows stone in the pelvis only and the kidney is not otherwise diseased. There was no urinary fistula when the kidney was incised and drained.

Following operation the patients were given normal salt solution by proctoclysis. After a few hours the head and shoulders were elevated and the patients were given an abundance of water by mouth with urinary antiseptics. If asthma threatened the drains were removed temporarily, hot packs applied to the entire body and hot fomentations over the kidneys, and diuretin was given hypodermatically. The author thinks that the calculi are probably bilateral in from 20 to 30 per cent of cases, and if both kidneys harbor calculi, it is probably better to operate on both at one time, if the patient's condition, which must be determined during the course of operation, will warrant the additional operation. With the above mentioned methods, he is of the opinion that the mortality is encouragingly low and the ultimate results, measured in life and function, are in the great majority of cases most satisfactory.

J. RABE

Arcefin Biliary Calculi Causing Errors in Renal Radiography (Les calculs biliaires causes d'erreurs radiographiques rénales). *Lyon med.* p. 5, cxx, 70. By Journal de Chirurgie.

Cases are frequently met in which there are thought to be both urinary and biliary stones, when in reality only the biliary stones are present. Nearly every one believes that biliary stones give no shadow on the X-ray plate, so if by chance a biliary stone does show and the clinical symptoms are

such that there is some doubt concerning the diagnosis, and there is blood and albumin in the urine, diagnosis of urinary calculus is made.

Shadows of biliary calculi resemble closely those of renal, and the differences are not clearly understood. Most radiographers and surgeons have never seen or have never correctly interpreted plates showing biliary calculi.

Arcefin has collected 1 case in which radiographs of the urinary tract have disclosed biliary stones in patients having urinary symptoms. He did not find a case in which the plate showed the shadow of ten faceted calculi, polygonal in form, with more or less rounded edges, below the twelfth rib at the level of the first, second and third lumbar vertebrae. The periphery of the stone alone gave shadow. The shadows corresponded to the location of the gall-bladder and diagnosis of gall-stones was made. The patient was not operated upon.

Goullfroid reported a case in which there were stones casting shadows similar to those described above at the level of the twelfth rib. The appearance of the shadow, as like that of the shadow cast by uric acid stone. An operation for renal stone was advised on account of the predominating renal symptoms. Pyelography was not attempted. Nothing was found at operation at autopsy a few days later one large stone was found in the common duct and sixty faceted stones in the gall-bladder, which did not show in the radiograph.

I order it makes radiography more accurate, such causes of error must be recognized and studied further.

J. DRAVET.

Isaacs Experiments on the Influence of an Injured Kidney upon the Other Kidney (Experimentelles über die Einwirkung einer verletzten Niere auf die Niere der anderen Seite). *Mitt. u. d. Grenzgeb. d. Med. Chir.* p. 2, xxvi, 1.

By Zentralblatt d. ges. Chir. 1 Groupch.

The author occluded the blood vessels of one kidney in rabbits and dogs, extirpating the other kidney after longer or shorter interval. The onset of total necrosis of the occluded kidney was followed by the resorption of decomposition products having toxic effect on the other kidney as shown by epithelial desquamation and more or less pronounced parenchymatous changes. This reaction permeated for one to two months when the necrotic kidney reduced to small calcified mass produced no more toxic substances. If the urinary passages of only one kidney are occluded or the occlusion of the blood vessels as preceded by nephrectomy with implantation into the omentum, or decapsulation and enveloping with omentum, whereby collateral cir-

culation was established, then occurred in the other kidney nothing beyond questionable hypertrophy. There was still some toxic substance produced if the renal substance became necrotic suddenly and in circumscribed areas.

In extending his studies to the liver excising a part, enveloping it with omentum and implanting it in the abdominal cavity the author found that when one kidney was extirpated the necrotic liver section produced only general to manifest jaundice and no special alteration of the kidney itself. He concludes that the kidney gives rise to specific toxic substance, which acts on the kidney. *OSKALA.*

Kocher The Operative Treatment of Floating Kidney (*Zur operativen Behandlung der Wandermiere*) *Chirurgische Archiv*, 9, 3, 220, 545.
By Zentralbl. f. d. ges. Chir. Grosseberg

The author describes a new method of nephropexy which he employed in recent case. It consists in removing a strip from the fascia lata 8-10 cm wide and 4 cm. long and suturing the middle to the capsule of the lower pole of the kidney and anchoring the two ends to the fascia lumbocostalis and lumbodorsalis. This makes fascial sac into which the kidney fits like stone into sling-shot. *REINOLAND.*

Caulk The Etiology of Kidney Cysts. *Ann. Surg. Phila.*, 9, 3, 120, 840. By Surg. Gynec. & Obst.

The author prefaces his article by reporting a personal case of renal cyst due to an obstructive calcareous papillitis. It occurred in a man, fifty-six years old, who complained of a dull aching pain in the right side, beneath ribs, occasionally referred along the course of the ureter to the scrotum, suprapubic soreness, low backache, pain in right hip, slight increased frequency of urination and hematuria. The prostate was moderately enlarged. Cystoscopy was negative while endoscopy revealed a large dark-red bleeding verumontanum with the whole posterior urethra congested. Owing to these findings the author thought symptoms were of prostatic and vesicular origin. Radiographs showed shadow in the bony pelvis on right side probably a ureteral calculus. At operation the right kidney was found enlarged; the lower pole was opened and a cyst discovered filling one of the pyramids. This was shelled out and the cavity cauterized. The kidney was closed with interrupted sutures, and the patient recovered.

Caulk states that the main theories as to the etiology of these cysts have been the retentive theory, the new formation theory, the theory that colloid changes of the epithelial and connective tissue cells serve as an origin, the congenital theory and the theory of Krause, which is that the kidney cysts are sometimes secondary to atrophy of the renal lobes in early life corresponding to an obliteration of one of the branches of the renal artery. The author believes that the prevalent idea that cysts even of medium size cannot originate through obstruction of inflammatory origin, is erroneous, as

In his own case there was a definite inflammatory obstruction and a large sized cyst.

The true etiology is obscure in most cases. Serous cysts are infrequent. In 260 topicals Middlesex Hospital, Morris met with but five cases. Israel found but one case in 207 surgical affections of the kidney. That the malady is not of adult life has been shown by Simon who collected 52 cases and found only seven of them under the age of twenty. We cannot associate renal cyst with any particular disease though many have reported such diseases as pneumonia, typhoid fever, dysentery, gall-stones, goit etc. as precursors. Poulsson believes that diseases which produce nephritis may aid in the production of kidney cysts. Of the drugs and poisons, corrosive sublimate, phosphorus, glycerine, aloin, vinylamin, etc., have been thought to be of etiological moment. Petterson and Tollens have tried, experimentally to produce cysts of the kidney but without success. Levaditi, working on mice, rabbits, guinea-pigs and goats, has been able to produce, by the subcutaneous injection of vinylamin, papillary necrosis and scleroses.

Serous cysts may be single or multiple generally unilateral, situated either in the cortex or medulla, and they vary in size from that of a walnut to that of a child's head. Rendin case of renal cyst contained ten litres of fluid.

The symptoms referable to kidney cysts vary greatly. The small cysts usually pass unrecognized during life and are found post-mortem, while in large ones the symptoms depend upon size, location, pressure effects, presence of infection and hemorrhage. Pain is present in but 60 per cent of cases and when present is usually localized. Hematuria is rare.

The diagnosis has seldom been made even in cysts of large size. It has been confused with floating kidney (and it should be noted that the association of cysts with floating kidney has been observed in a number of instances) hydronephrosis, solid renal tumors, ovarian, splenic, hepatic, mental, pancreatic and mesenteric cysts, and ascites. Cystoscopy, ureter catheterization, functional tests and X-ray have been of little service in differentiating the lesion.

For cysts of moderate size the most satisfactory operation, as utilized by Tuffier, Bardenheuer, Ricard, Recamier and Albarran, is excision of the cyst. Morris advocates partial nephrectomy when the cyst is situated in one pole of the kidney. Very large cysts which have destroyed most of the kidney substance, complete nephrectomy is advised. The collected statistics of Quenu, Lejars, Albarran and Tuffier show 54 nephrectomies with 54 cures and 20 deaths.

H. W. E. WAINMAN.

Berner The Cystic Kidney; Studies Regarding Its Pathologic Anatomy (*Die Cystenkrankheiten der Niere pathologische Anatomie*) *Kristiania* Elg Verlag, 9, 1.

By Zentralbl. f. d. ges. Chir. u. d. Grosseberg.

The author by means of serial sections graphic and plastic reconstruction, has studied in detail 28

cases of cystic kidney — 1 of which were congenital. The remaining 17 were those of adult up to 80 years old. It has found no points in favor of Virchow's papillitis theory and has never found any signs of inflammatory processes. The calculations of small chromatin-rich cells which are found in the cortex as well as in the medulla, have been attributed to inflammatory processes by many observers. The author however believes that they are due to persisting nephrogenous tissue. The sudden formation of small epithelial cysts in this tissue speaks for that fact. The author considers them similar to normal follicular renal cysts which are theanlage to the formation of Bowman's capsule with urinary tubules. Furthermore all transitions from these little earliest cyst formations, the size and appearance of Bowman's capsule (in which no gallary tuft is present) can be seen.

The fact that polymorphous clear cells have never been found and there has never been observed any diffuse connective tissue formation such as occurs in inflammatory processes speaks against the inflammatory origin. The typical location of these masses of round cells also speak for a persisting nature. It is found occasionally along the periphery of the kidney, so that one is reminded of the congenital zone of the embryonal kidney.

In accordance with his own theory Berber, as he also demonstrates development disturbances which at one time involve one part and another other areas of the urinary tract. The usual developmental error that could be demonstrated is the fact that the tubules from which normal kidneys develop remain separated in the cystic kidney. This is proven most easily the isolated Malpighian bodies from which bilaterally arising normal urinary tubules are occasionally seen to project. In few of his cases collecting tubules were entirely absent. Even though the literature the minor canals are frequently spoken of as collecting tubules the author calls attention to the surprising similarity between the normal collecting tubule and the typical epithelial vesicle. If frequently observed collecting tubules in typical branching and in very irregular appearance.

In the pelvis of the kidney he was able to demonstrate developmental anomalies, for instance, the occasional persistence of the single-layered flat epithelium — typical arrest. At other times the pelvis showed typical forms with large cystic cavities. The author discusses them in detail. In all his cases he was able to demonstrate developmental anomalies. In a number of them there are signs which must be attributed to tumor formation such as papillomatous excrescences, long connected epithelial bands, masses of free epithelial cells, epithelial vesicles floating within the cysts, many-layered epithelium and solid epithelial masses. Many such small compact masses are undoubtedly rests destined for the formation of Bowman's capsule. There is no doubt that epithelial proliferation occurs frequently in cystic kidneys. The question is

whether it is primary or secondary to the disease discussed. Secondary epithelial proliferation is frequently found following inflammatory conditions, but these are absent in cystic degeneration. In many cases the epithelial proliferation is clearly of definitely of primary or tumor nature. The author holds the view that cystic degeneration has nothing to do with retention, that each cyst is the result of a proliferation and in many cases may take on characteristics of adenoma. In other cases these hyperplastic characteristics are absent and the picture is more that of developmental anomaly. The developmental anomaly always precedes the epithelial proliferation. The cystic kidney in other words is a combination of developmental anomaly plus a growth. In individual cases one or the other factor may predominate.

All epithelial proliferation occurs in abnormal part of the kidney. The author has never seen a normal functional non-secreting tubule or a part of which was the focus from which tumor-like proliferation originated. Regarding the occasional occurrence of cartilaginous islands in cystic kidneys, the author views considers that that of Cohnheim and Wilm, that the structure is mixed tumor and the cartilaginous island is probably sclerotic area. It does not believe that they are due to metaplasia. In the other material there are quite a number of areas in which such cartilaginous islands are noted. The horn pearls which have been found only by Rokitansky and the others are contained in cystic kidney as well as in renal adenoma and are due to ectopic blastema. The author also considers the presence of smooth muscle as belonging to the heterotype, as he never found smooth muscle tissue in the stroma of the normal embryonal kidney. The presence of fibrous and mucoid tissue is explained on the same basis. Nussler.

Scheldersandl: The Infectious Diseases of the Kidney and Urinary Passages (Die infektösen Erkrankungen der Nieren und Harnwege). Abhandl. d. Ges. d. prakt. Med. 1913, 11b, 70.

By Zentralblatt d. ges. Gynäk. Geburtsh. d. Grenzgeb.

The author differentiates three types according to the manner of invasion of the feeding organism.

Hematogenous (descending) infection from bacteria which find the way some manner into the blood stream. Urogenous (ascending) arising from the lower urinary passages. 3. Infection via the lymphatics from the intestine. Infection from the blood stream is characterized by involvement of the parenchyma. The clinical picture in this condition, usually described as suppurative nephritis, is very variable. Urinalysis has demonstrated direct bacterial invasion from such foci as the tonsils, middle ear and other local foci. Perinephritic abscess is produced by microbial invasion of the perinephric fatty tissues the chief source of infection being furuncles of the skin.

The symptoms are high fever, sensitiveness of the kidney to pressure, severe constitutional depression.

With the accumulation of pus there is swelling and edema in the lumbar region. In the early diagnosis positive urinary (bacteriological) findings are very significant. Invasion of the kidney alone is almost invariably hematogenous. When there is involvement of the renal pelvis one must consider in addition to descending infections, ascending (*B. coli*) infection from the bladder and ascent via the lymphatics. Against the preponderance of hematogenous invasion is the fact that in the young pyelitis is almost exclusively disease of the female. A potent factor in promoting invasion by the motile *B. coli*, is conditio urinary stasis. Infection through the lymphatics has its anatomical basis in the lymph passages reaching from the cecum and ascending colon to the right kidney. According to Mueller's researches, it is possible for an invasion to occur via the lymph spaces in the walls of the bladder and ureter.

There are two significant points in the history previous bladder irritability and ycturia. The sensitiveness of the involved kidney may vary. Muscular hyperalgia and cutaneous hyperesthesia are more constant. Mueller's method for recognizing pus in the urine is especially helpful. The reaction in *B. coli* infections is instantly acid. Hematuria in uncomplicated cases is extremely rare. The bacteriological diagnosis is important as the author found the causative organism to be the *B. coli* in 85 per cent of his cases. When possible ureteral catheterization is indicated to find whether one or both kidneys are involved. A bacteremia is demonstrable in severe cases. The serodiagnosis in *B. coli* infections is unsatisfactory. The temperature curve is characteristic—chills and fever at first constant, with a deference in 3-6 days. A low pulse tension and undisturbed respirations differentiate this disease from pneumonia. The alternating fever and apyrexia is also characteristic.

Repeated relapses lead to bilateral involvement. Out of 5 cases but twelve occurred in the male. The preponderance of right-sided involvement is pronounced. A correlation between menstruation and pyelitis is noteworthy—30 per cent of cases occurring in pregnant women. Pyelitis of pregnancy makes itself most felt in the second half. Here, too, in unilateral cases the uterus is physiologically dextroversion. Pyelography discloses generally dilatation of the ureter at its entrance into the true pelvis, or dilatation of the renal pelvis. In the case of defecation, pyelitis resulting from the first attempt to toilet, there is first involvement of the bladder and after a few days pains in the lumbar regions. The prognosis in an uncomplicated case of pyelitis is favorable. A chronic condition may persist for years without any external of the process. Bacteruria is often the final stage.

The author inclines towards the medicinal treatment. Vaccine treatment is uncertain. In the more severe cases ureteral catheterization and pelvic lavage with silver nitrate is the procedure of choice. Lying on the left side is recommended for gradual

patients. While the interruption of pregnancy affords very prompt relief it is not recommended. Operative procedures are reserved for complicated cases, such as perinephritic and nephritic abscesses.

P. Mitter.

Bauerstein. A Case of Post Operative Perinephritis Serous (Ein Fall von postoperativ entstandener Perinephritis serosa). *Zeitschr. f. Geburtsh. u. Gynäk.* 93, 17, 24.
B. Zentralbl. f. d. ges. Gynäk. u. Geburtsh. 8 d. Grenzgeb.

In consequence of Freund-Wertheim operation, an ascending infection took place which followed the lymphatics along the ureter to the renal capsule and gave rise to an inflammation of the tunica fibrosa and fatty capsule including the fascia renalis. The resulting inflammation the author describes as perinephritis. A secondary invasion of the parenchyma gave rise to a nephritis. The operation of choice is an incision of the kidney. WEISSWANG.

Baetner. Contribution to the Study of Pyelitis Granulosa (Beitrag zur Kenntnis der Pyelitis granulosa). *Zeitschr. f. med. Chir.* 93, 1, 85.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. 8 d. Grenzgeb.

Baetner reports a case of pyelitis granulosa which in its clinical manifestations differed from the clinical description of Fritsch in so far as there was no intermittent hemorrhage. He ascribes this peculiarly to the special pathological findings at operation, to-wit, circumscribed knot-like infiltrations. In the etiology of pyelitis granulosa typhoid plays an important part.

REACT.

Drennon. Traumatic Hydrourephrosis. *Ann. Surg.* Phila., 93, 17, 879. By Surg. Gynec. & Obst.

After distinguishing between three groups of traumatic hydrourephrosis, 1. (1) true traumatic hydrourephrosis (2) pseudotraumatic hydrourephrosis (3) ruptured hydrourephrosis, according to Legrain, the author describes the true traumatic hydrourephrosis and reports a case of the same.

As the origin of true traumatic hydrourephrosis he gives the following etiological factors: Traumatic injuries to the ureter which complicate the renal injury and are invariably situated high up near the origin of the ureter which may be either ruptured or contused or even completely severed and thus the cause of cicatricial stenosis or occlusion at the point of injury. A blood-clot in the ureter following injury to the kidney is another cause. This clot may cause obstruction and produce dilatation of the renal pelvis. The increased pressure above would necessarily distend the ureter so that the arrested urine would find its way alongside the clot, which, occasionally would sooner or later become detached and washed away. There are also secondary causes such as stricture, which may lead to floating kidney and this in turn to obstruction of the ureter. A blow over a calcareous kidney may dislodge a small stone which may be impacted in the ureter and thus form a true traumatic hydrourephrosis.

sis is special indication for decapsulation, but a secondary co-tractio due to the formation of a fibrous tissue capsul may occur in some of these cases. The author's experience corresponds to the experiment of Rossell who has found sclerotic changes in the newly formed capsul. The author agrees with Israel in regarding decapsulation as a reliable procedure. *Blanc.*

Moore and Corbett. An Experimental Study of Several Methods of Suturing the Kidney.
J. Surg. Med. 9 3, 1 800
 By Surg. G. nec. & Obst.

The authors point out that the damage resulting from suture of the kidneys is much more extensive than from the incision and is moreover very variable ranging from slight scar tissue formation to complete destruction of the pararenal hvm. Where mattress sutures are used small portions of the kidney substance may be strangulated especially in the pyramids. Lat. calc. is too common a complication of calcium phosphat. at nec. may occur. Thus a produced experimentally the stone forming in three months.

After reviewing the anatomy of the blood supply the authors consider the question of methods of incising the kidneys and state their objections to the silver-clip method or to the clamp. They give the results of series of experiments on animals in which the kidney was exposed and the authors found that was produced as great if not greater areas of infarction and more damage to the collecting tubes. In which 2 times do not run parallel to the vessels in the parenchyma. They find that if a careful soft dissection is performed the renal vessels can be controlled immediately and the kidney opened with sharp knife, avoiding the poles, the least damage is done. After the necessary exploration the parenchyma is approximated by through and through sutures of very fine silk.

Kidney sutured by them thus do not bleed and they show by considerable number of experiments that the temporary compression of the renal vessels produces slight desquamation of the epithelium only. Kidneys examined few weeks after simple clamping of the vessels were normal. Further experiments also showed that the clamping of renal vessels for one hour had no serious effect on renal function. Their conclusions are that, while mattress sutures are a material cause of extensive destruction of kidney substance through and through sutures the fine silk produce but slight lesions. *Blanc. Bremer.*

Likier. Concerning Bilateral Ureterolithotomy in Calculous Anuria (Über doppelseitige Ureterolithotomie bei calculöser Anurie). *Beitr. z. kl. Chir.* 9 3, 1 800
 By Zentralbl. f. d. ges. Chir. u. Gynäk. Gebirte u. Gynäk.

Most writers assign very much importance to ureterolithotomy in calculous anuria as compared with operation (nephrotomy) of the affected kidney.

They concede this procedure permissible only under special conditions. They hold removal of a stone a secondary matter. Double sided ureterolithotomy is even more seldom carried out. In conjunction with a case in which this procedure was successfully performed the author discusses the indications and prognosis of this operation. It is indicated in impacted stone in the iliac or pelvic portion of the ureter but adaptable only if the pelvis is otherwise free from stone. In cases of unprotracted anuria it is best to attempt to dislodge the stone first by ureteral dilatation or if section of an indurated fluid. In event of a severe anuria it is necessary to perform a single or double nephrotomy for it favors the re-establishment of the renal function as does an intestinal fistula in ileus. The proportion of cases in which bilateral ureterolithotomy is indicated is very small but its range of usefulness will broaden. *Oesterl.*

Hartmann. Operative Treatment of Supernumerary (Aberrant) Ureters (Zur Kasuistik und operativen Behandlung abnormer Ureters). *Zentralbl. f. Chir. u. Gynäk.* 9 3, 1 800
 By Zentralbl. f. d. ges. Chir. u. Gynäk.

A thirty three year old female patient had been consulting several physicians for nocturnal enuresis without getting relief. When H. was discovered small opening below the orificium externum urethrae from which little drop of urine was passing when the patient coughed. Further examination revealed the opening as the outlet of a supernumerary aberrant ureter. By the vaginal route this ureter was then implanted into the bladder and the patient was relieved of her trouble.

The author collected fifteen cases of supernumerary aberrant ureters from literature there were twelve other cases which it was not possible to decide whether they dealt with a supernumerary aberrant, or a perfect, reter, and finally seven cases of perfect ureters with abnormal outlet. It is often extremely difficult to find the narrow opening. Sounding is almost always impossible. An operative method of implantation of the ureter into the bladder or into the rethra may be considered, if implantation into the bladder the vaginal the transvesical or abdominal route may be chosen. The vaginal implantation into the bladder is the method of choice. *Runkel.*

Hutchinson. Obstruction of the Ureter by Aberrant Renal Vessels: Clinical Study of the Symptoms and Results of Operation. *Proc. Roy. Soc. Med.* 9 3, vi, Surg. Sect., 20
 By Surg., Gynec. & Obst.

To insure an early diagnosis of vascular obstruction of the reter Hutchinson notes the following signs. It is found generally in males, usually between the age of 5 and 5 rarely younger. The attacks of pain at periodical intervals of months or years between the early ones, while the later ones come on every week, or oftener. Finally

when the pelvis dilates permanently the attacks cease only a dull pain in the loins remaining. The pains are severe, doubling the patient up and making him sweat profusely. Vomiting is frequent although it does not always occur. The pains are located chiefly in the lumbar region, but may occur in the front of the abdomen, and radiate toward the groin and testes of the same side, rarely into the shoulder. It is one-sided, occurring on the right side twice as frequently as on the left. Relief is obtained by lying on the affected side. Neither medicines nor perineals are of use.

Exertion does not cause the pain as a rule. It may come when patient lies down. It is not affected by diet, time of meals, nor constipation.

There are no objective signs. Cystoscopy may show congestion of the ureteric orifice on the affected side. A skidogram will make the diagnosis.

Urinary symptoms are absent there is no frequency of micturition during or after an attack. Occasionally hematuria, traces of albumin and pus are present. The cause is congenital. It is not dependent upon a floating or too mobile kidney.

In the majority of cases lumbar exploration alone is required. The vessel or vessels must be ligatured and excised. A plastic operation has been performed in cases with distortion of the pelvis but without success. The author claims it is best not to open the canal but to straighten out the pelvis and ureter as far as possible. He advises early operation.

LOREN GRON.

Ottow. Contribution to the Study of Intermittent Ureterocol. *Vasculitis* (Beitrag zur Kenntnis der intermittierenden Ureterocolis acutis). *Zisch / Urol. 9, 3, 1913, 3.*
By Zentralbl. f. d. ges. Chir. Göttingen.

The author describes case of unilateral ureteral prolapse the size of which varied with the strength of the urinary stream. It was plainly at its greatest size during action of the ureter and diminished in the intervals. This observation made it clear to the author that the action of the ureter is the explanation of the well-known variability in size and appearance of such ureterocolic. HILDEBRAND.

Lohmeier. Cystic Dilatation of the Vesical End of the Ureter (Cystische Erweiterung des vesicalen Ureterendes). *Zisch / Urol. 9, 3, 1913, 7.*
By Zentralbl. f. d. ges. Chir. Göttingen.

The author describes case of ureterocolic successfully operated by him three years ago by the endovesical route. The patient was woman 39 years old, who had suffered for many years severe pains in the lower abdomen. She had had an appendectomy, double ovariectomy and vaginectomy performed without relief. At the present time she complained of acute bladder catarrh. Cystoscopic examination showed the bladder wall bulged inward by the ureterocolic the mucosa surrounding the ureteral opening was prolapsed. Diagnosis right sided ureterocolic. At operation the prolapsed

mucosa was cauterized with a Loewenhardt caustic introduced through cystoscope. The ureteral opening immediately enlarged bulging of the bladder mucosa disappeared. The patient's symptoms entirely ceased. The author in operations of this kind prefers the endovesical route. OUDIN.

Zackelshandl. The Local Treatment of Retention of Urine and Pus in the Kidney by Means of Ureter Catheterization (Über die örtliche Behandlung renaler Harn- und Eiterstagnationen durch Harnleiterkatheterisation). *Wien med. Wochenschr. 9, 3, 1913, 345.*

By Zentralbl. f. d. ges. Chir. u. i. Göttingen.

Normally there is no urine in the renal pelvis. Renal urine the kidney pelvis must be looked upon as a pathological condition. Complete or partial retention, whether aseptic or infected, can be therapeutically influenced by the introduction of ureteral catheters even though in many cases it may be only palliative measure. Where the urinary retention in the kidney is complete the severe symptoms of the attack, as seen in intermittent hydronephrosis, can usually be relieved quickly by evacuation of the urine by means of the ureteral catheters. The duration of the disease cannot be limited by the catheterization since in cases of complete retention in the renal pelvis pressure atrophy of the kidney tissue appears after short time.

The therapeutic benefits of ureteral catheterization are more marked in cases of chronic incomplete retention, and especially in the infected forms. Besides catheterization, lavage of the renal pelvis may have to be considered. On account of hemorrhage, etc., the catheters cannot be retained indefinitely usually not longer than 24 hours. Each case must be examined with due regard for all the symptoms and the anatomical and pathological relations accurately determined by all the modern methods. In all cases of disease of the perirenal or renal tissue, and in those with marked constitutional disturbances immediate operation is indicated. OUDIN.

Falkowski. Permanent or Temporary Deviation of the Urine by Means of Nephrostomy (La néphrostomie moyen de déviation permanente ou temporaire des urines). *Thèse de doctorat.*
Paris, 9, 3, 1913. By Journal de Chirurgie.

The indications for urinary derivati are multiple such as severe tuberculous cystitis, painful and inveterate cystitis bladder tumors atrophy of the bladder pelvic cancer pressing on the ureters, bitylate vesico-vaginal fistula and some cases of renal lithiasis. The incision must be short, so as not to require many sutures to repair the fistula must be made on the lower calyx and the drain must be well secured in correct position. When the deviation is intended to be permanent the best way to occlude the ureter is to place it, according fashion, by means of stout catgut. Around each suture thread and on each lip of the incision, zone of necrosis $\frac{1}{4}$ to $\frac{1}{2}$ of inch thick is produced. This

is is from the necrosis of $\frac{1}{5}$ or even $\frac{1}{3}$ of the parenchyma wrongly maintained by some a thors

Far from impeding kidney function, cauterization improves it as demonstrated conclusively by many cases. In some instances the improvement is such that radical surgical interference may come up for consideration later. If besides, we take into account the fact that there exist a number of perfectly tight appliances to collect the urine must admit that nephrostomy deserves a greater place of practical work than it has been heretofore granted.

GASTRO PICOOT

Kidd A Small Incision-Splitting Incision for the Exposure of the Pelvic Portion of the Ureter
Lancet, Lond., 93 March 578

By Surg. Gynec. & Obst.

The author bases this report on his experience in the dissecting room, and on a series of operations on the living. He advocates an incision three inches in length parallel to Poirart's ligament and one and one half inches above it, the center of the incision being directly over the internal abdominal ring. The various layers of muscles are divided in the direction of their fibers more room is secured by the inward retraction of the rectus muscle great care being used not to cut its posterior sheath. The ureter is exposed at the point where it crosses the external iliac artery. The author claims the following three advantages for the incision: that it avoids injury to the last dorsal and lumbosacral nerves and the deep epigastric vessels and prevents the occurrence of post-operative hernia.

HARRIS L. S. RO

BLADDER, URETHRA, AND PENIS

Lewis Where is the Fundus of the Bladder? *J. Am. Med. Assn., 93 Nov. 765*

By Surg. Gynec. & Obst.

In an appealing communication, Lewis asks that the term fundus of the bladder which in truth has origin from the Latin, in meaning the base, be corrected. It is a misnomer inasmuch as the term as applied has reference to the vertex. He asks that the nomenclature be changed, according to the true anatomy of the part and the classification as given by the anatomists, as follows: (1) The summit or vertex (2) the base (3) the body (4) the cervix or neck.

IRWIN S. KOLL

Uterberg The Operative Treatment of Rebellious Cystitis Cases with Curettage of the Bladder and Temporary Urinary Fistula (Die operative Heilung der rebellischen Cystitis mittelst Blasencurettage und vorübergehender Blasenfistel) *Beitr. Klin. Chir., 93, January 3*
By Zentralbl. f. d. ges. Chir. u. Gebortsh. u. Gynaek.

The author defines as rebellious cases of chronic cystitis in which deeper pathological changes prevent or interfere with the return of the organ to normal. He divides the disease into two types: one

in which definite anatomical changes of the mucous membrane exist, such as ulcerous cystitis, leukoplakia, cystitis pseudomembranosa, and the other without characteristic mucous membrane changes. The etiological factors are gonorrhea, pregnancy and catheterization. Anatomically the severe bladder lesion consists of thickening and induration of the individual layers, which decrease the mobility and dilatability of the organ and convert it into one of fixed capacity. As the most severe changes occur in the submucous layer, curettage of the focus is necessary.

According to the author the entire removal of the mucous membrane through a suprapubic opening with prolonged drainage and irrigations with 3 per cent silver nitrate solution is the most thorough method. If the patient is a woman and refuses suprapubic operation the treatment may be performed through the urethra. In very severe muscle degeneration with minimal capacity the only treatment consists in performing a permanent easily closing urinary fistula to liberate them from the constant desire to urinate. He reports seven cases of personal observation and treatment (six women and one man). Of the three cases in which the bladder curettage was performed through the urethra, two were improved and one had a recurrence after short improvement. Two cases of suprapubic curettage with temporary fistula were decidedly improved. Two cases with a suprapubic curettage and permanent fistula were not improved on account of the extensive destruction of the bladder musculature. The best results are obtained scrobulo alia and curettage. Local treatment produces no results in rebellious cystitis.

DOAN

Lerdau Contribution to the Treatment of Extrophy of the Bladder (Contribution au traitement de l'extrophie de la vessie) *J. d. chir., 93, 2, 549*
By Surg. Gynec. & Obst.

The author groups the various methods of treatment of extrophy of the bladder as follows:

1. Interventions having in view the reconstruction of the bladder and urethra.

2. Interventions upon the ureters to avoid the inconveniences caused by the mucosa of the extrophied bladder and to limit the escape of urine.

3. Interventions having in view the deflection of the urine into the intestine.

4. Interventions having in view the creation of vesical pouch possessing an orifice to the exterior placed under control of the sphincter ani, and without a connection with the rectum.

After brief review of the technique involved in these methods of treatment with their advantages and dangers Lerdau evolved a principle which resolved itself into steps:

1. Obtain a closed vesical pouch, no matter how small use entirely or in part the extrophied wall and this wall is most apt to fulfill bladder function.

2. To create a thin cavity vesico-perineal canal for the escape of urine independent of the internal urethral orifice with the ring of the sphincter.

This principle was applied in the following case. A boy aged 5 and one half years, the eldest of 5 of the bladder with epispadias had been operated upon 3 years previously. The operator had not realized the small size of the urethral orifice. This orifice was the public emission had been the margins were well approximated. The epispadiac penis was likewise well developed. The surgical attempt to reconstruct the urethra by an empty anastomosis of the inguinal canal.

The operation proceeded as follows: 1. The perineum was incised longitudinally 1/2 inch long in 4 cm. The sphincter was not exposed and separated from the anterior wall of the rectum. A large Hegar dilator was introduced to the rectum to hold it open. The small testicles were pulled out of the prepuce of the scrotum. Then the perineal bladder was directed as far as possible towards the perineum with retention of the bulbous urethra. The canal made at the base of the bladder was the end of the urethra. A large Hegar dilator was introduced and the bladder was not exposed. In order to permit the escape of urine the rectum was large. Thereafter a large round urethral graft was introduced at the perineum and not at the perineal position. The first perineum was lowered at the end of eight days. The urethra and the bladder were both well healed. The new canal was completely covered by the graft.

After the second graft curved metal sound was introduced through the canal to the base of the bladder. The sound was introduced into the bladder. A large Peters catheter was passed from the bladder to the perineum. The catheter collected about fourteen ounces of urine. The urine escaping through the anterior orifice of the bladder by use of the urine prominence of the urethral ligament.

At some times, during such the retention of the bladder had been frequent. The urethral orifice had been established, an attempt was made to lose the internal orifice of the bladder by freshening its surface and utilizing the epispadiac orifice of the penis as an external flap. The sutures held for the most part and the small fistula which penetrated healed slowly under permanent drainage through the perineal meatus.

The patient was kept under observation for

several weeks. After the withdrawal of the retention catheter the patient during the effort of defecation few drops of urine escaped by the vesico-perineal canal but the bladder was not continent at the touch of the sphincter in regard to constipation of feces was the same as before the operation. The patient was allowed to go home but returned very shortly with suprapubic fistula, which was discovered to be due to stricture of the newly formed canal. This stricture permitted the passage of urine. This stricture was dilated until it permitted the passage of urine. The stricture of the newly formed vesico-perineal canal is the cause of the stricture because the stricture must be kept dilated with sound.

Almost immediately after the operation the patient returned for periodic dilatation of the urethra. The entrance of the sound into the bladder morning after morning was necessary for defecation. The amount of urine retained during the day was much less than the amount of the bladder. The urine escaped from the perineal orifice enough to oblige the patient to urinate for collection. This is due to the loss of the sphincter muscle. The loss of the sphincter muscle improves the thoracic condition. The use of the urethral dilators for improvement of the condition.

The but not the use of all proposed methods for the treatment of epispadias of the bladder the only ones which are those which are the most useful of the lower canal. The urethra must be external after the removal of the sphincter muscle. Method which utilizes this purpose as part of the digestive tract are too great. The urethra is constructed in the urethral sphincter and segment of intestine taken the already feeble sphincter is too much to be effected. The methods which create a urethra are the best means of the removal of the internal orifice of the rectum too great and too difficult because the operation held does not lend itself to the anastomosis. The urethra is necessary. There is also the difficulty of extending enough of the rectal wall. The urethra is not a good idea.

I most cases there must be a flap of urethral wall thick enough and deep enough to be utilized for the creation of urinary reservoir. This reservoir no matter how small, must be dilated enough to be satisfactory for this purpose the dilator is inserted by the rectum.

I order to prevent the escape of urine from the reservoir it is not necessary to resort to anastomosis at the expense of the bladder or digestive tract. Since the urethra is made from flaps of the perineum, complicated by Thiersch grafts, can perfect fulfill the conditions.

ELIAS DICKER

Oppel. Exclusion of the Bladder (Die Ausschaltung der Harnblase). *Arch. d. chir. Klin. d. Prof. Oppel*. St. Petersburg. 93 IV 3.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The author reports twenty bladder exclusion operations performed in his clinic according to the method of Mikrotworzoff. The ureters, after being liberated, were divided as near to the bladder as possible and implanted into the pelvic colon or to the lower sigmoid. The ureter stump was placed into opening made in the bowel, mucosa being sutured to mucosa and reinforced by second row of sutures. In the first row of sutures it was advisable to include the adventitia of the ureter to prevent the sutures from tearing out. The operation was performed for ectropism and for carcinoma of the bladder (in the latter as preliminary procedure) for high epispadias with a cleft sphincter for vesicovaginal fistula in which a plastic operation proved unsuccessful and finally as a palliative procedure in inoperable carcinomata and severe tuberculous infection of the bladder.

In ectropism of the bladder he author discarded the methods of Majdi and Sembotini, since they are accompanied by too high mortality. Of eight cases operated according to the method of Mikrotworzoff, two died, both under 7 years. The bladder itself was not removed until two weeks after its exclusion. In carcinoma of the bladder cystectomy was performed twice in the author's clinic after a previous exclusion according to Mikrotworzoff.

The author collected ten cases from the literature, six of which the urine was led externally and in the remaining four was led into the bowel. No deaths occurred among all these cases. The implantation method of Mikrotworzoff however is to be preferred, since it does away with the gonizing urinary fistula. With the good results obtained in the two-stage bladder extirpation for carcinoma, the indications for this operation must be extended at the expense of resection which poor results are obtained.

A well-functioning sphincter ani is necessary condition for the operation. The condition of the kidneys also is important. Advanced nephritis and pyelitis are contra-indications. A third contra-indication is youth. Children under 10 years offer a high mortality. In conclusion Oppel asserts that although infections which indicate exclusion of the bladder are necessarily accompanied by danger of ascending infection, this is not so great according to his experience, after operation as is generally supposed. In a series of his patients symptoms of unilateral or bilateral pyelitis set in shortly after operation, but they again disappeared after time. Those patients who previously had perfectly healthy urinary tracts reacted more intensely, which must be attributed to an absence of local immunity. To minimize the danger of infection the author divides free catharsis and disinfection of the bowel, and immunizing the patient against the colon bacillus. In his last cases the author observed good results with

milk diet and with the ferment regulative Chlari on the one hand and polyvalent coli vaccine on the other. In regard to the latter question a dissertation by Iljin will appear later. *RUSSEKAMPFF*

Boerger. A Clinical Study of the Application of Improved Intravascular Operative Method in Diagnosis and Therapy. *Med. Rec.* 93, I, 1900. 14. By Surg. Gynec. & Obst.

The author gives a detailed description of his instruments for intravascular operations. The many conditions in which these are of value are then discussed and cases cited in connection with each. Exploratory excision in suspected carcinoma of the bladder or prostate has been of great assistance in forming a diagnosis not only as to the presence or absence of carcinoma but also if present, as to its probable source. Removal of other suspected vesical lesions is of diagnostic value and sometimes the simple removal results in a cure. Calculi can often be removed with the author's small instruments.

Dilatation of ureters is of service when there is a real stenosis of the ureter or in cases of ureteral calculi where the passage of the stone downward has been arrested. Renal tuberculosis can often be diagnosed from the microscopical examination of small vesical tubercles when no other definite sign of tuberculosis of the renal system can be determined. *J. H. SEXTON*

Ilirsch. The Effect of Gonorrheal Infections upon the Musculature of the Genito-Urinary Tract. *Am. J. Urol.* 93, 12, 833.

By Surg., Gynec. & Obst.

Author discusses the secondary symptoms produced by infiltrations and fibrous deposits in the genito-urinary muscles. He states that the so-called spasmodic structure may be due to a swelling of the mucous membrane, or to muscular contraction which again has to be classified as the inhibitory action of the bladder wall and the actual spasm of the urethral muscles. The close proximity of the ampulla and seminal vesicles to the bladder may induce, in their infected state, frequent bladder contractions, so-called bladder irritability and chronic cystitis, without causative evidences in the upper urinary tract. This condition is promptly relieved by emptying the seminal vesicles. *HARRY KEANE*

Pedersen and Cole. Measurement and Projection of the Posterior Urethra and Vesical Floor by Means of Posterior Urethral Calipers and Radiography. *N. Y. M. J.* 93, xcvi, 73.

By Surg. Gynec. & Obst.

To ascertain the exact position of the outlet of the bladder the authors devised a new instrument of the catheter type, so that the bladder may be filled to moderate distention. When withdrawn until the flow ceases, the instrument occupies the exact outlet with the coiled head thus voiding the uncertainties incident to the solid no-catheterizing instruments. This new instrument has a head 1 cm. long mounted

penicillin oil. In the latter instance there ensued a severe cystitis with marked pyuria. The other cases suffered only a more or less marked bladder irritability or inflammation of the mucosa. Injection into the renal pelvis without hindrance to the urinary stream provoked only bacteriuria with few leucocytes but no alterations in the pelvis or the canal-systems. After artificial ureteral constriction generally with more or less persisting stasis (up to 68 hrs.) severe damage followed, chiefly in the region of the pelvis and upper part of the ureter. The infection was invariably ascending either through the canal-lymphatic system. In intravenous infection with simultaneous artificial ureteral constriction gave rise to an infection of the ascending type in which the most marked changes were observed in the pelvis. In the non-operated side there were only minor if any alterations. The kidney.

In order to test the possibility of bacterial passage through the testicular all in artificial ureteral stenoses as produced in dogs and in rats for long time. A renal infection was demonstrable cultures from bladder and pelvis being negative. The conclusions are as follows: Bacteria organism pathogenic for rabbits capable of producing deep seated lesions in the urinary apparatus and factor in concretum production. Of greater importance (urinary stasis), which, even in the presence of most insignificant alterations in the urinary passages, favors infection. In the B. coli and increases its virulence. The infection corresponds to the ascending type. Descending infection is possible but infection from the stasis is hypothetical only as long as there is no proof of transmigration of bacteria through the testicular wall either conditions that are normal or described as intestinal disturbances. The preponderance of women affected is due to local conditions (shortness of the urethra) which favor the ascent of the germ. In addition there are number of contributory conditions, as gonorrhea, loosening of the mucosa in the menes and pregnancy. The unusual incidence in the right kidney is due to the anatomical structure a predisposition of that kidney to be abnormally low in relation to the viscera. In consequence there occurs more or less persistent stasis which by hindering the normal stream affords the first step in ascending infection.

Kelly and Lewis. Silver Iodide Emulsion—A New Method for Diagnosis of the Urinary Tract. *Surg. Gynec. & Obst.* 93, 274, 707.
By Surg. Gynec. & Obst.

Everyone has found that all of the various media injected for X-ray purposes possess various disadvantages. Collargol is widely used and may be taken as a good example of the group. The chief objections to collargol are (1) It is dirty and stains everything with which it comes in contact. (2) It is expensive. (3) It is a proprietary preparation. (4) It gives rise to various complications following collargol injection have

been reported from time to time. In the cases operated on by Kelly and Lewis the last few months previously injected with collargol it was noticed that the perineal tissues were discolored, the collargol having passed through the renal pelvis although the latter was intact. One of these cases required prolonged drainage before healing.

The use of an emulsion of the iodide of silver for radiographic purposes was suggested by the fact that it had already been used therapeutically in the bladder by Siler and Uhle. Silver iodide is insoluble in water and must therefore be suspended. This is best done in mucilage of quince seed. The preparations put out by different establishments vary greatly some being far better than others. Silver iodide is clear. It does not stain. Its exact concentration is known and can be controlled. It is bland, stimulating and antiseptic. Its cost is inconsiderable. The silver iodide emulsion generally used by the authors is 5 per cent strength to inject the bladder ureters or pelvis of the kidney cast decidedly better shadow than does collargol solution of equal strength. In fact 5 per cent silver iodide emulsion will cast a shadow fully as dense as will 10 per cent collargol solution. Less concentrated preparations may be employed if the cavity to be injected is large as for example, the bladder being X-rayed. Some have feared that silver iodide emulsion injected into the ureters might precipitate leaving behind particles which might be the cause of future stone but the authors are convinced that this fear is groundless. They conclude that silver iodide emulsion carefully prepared 5 per cent strength is a safe preparation to use for radiography of the entire urinary tract. It is non-toxic and can safely be used even in large amounts.

Smith. The Excretion of Formalin in the Urine: an Inquiry into the Accuracy of Burnam's Test. *Annals of S. & J.* 9, 3, 274, 707.
By Surg. Gynec. & Obst.

Burnam's test consists in adding three drops of 0.5 per cent aqueous solution of phenylhydrazine hydrochloride, three drops of 5 per cent aqueous solution of sodium nitroprusside and then an excess of saturated aqueous solution of sodium hydroxide. The solution is heated and the sodium hydroxide must be heated little above body temperature. Formaldehyde, 30,000 or stronger causes an intense blue which changes to green and then brown. In solutions 50,000 p.p.t. 30,000 the first color is green, going over to brown. Urotropin will not give this reaction. Urotropin may be broken down by distilling with sulphuric acid and boiling when the solution clears.

The article outlines the work of determining the conditions under which the test is of most value; the attempt to determine the conditions causing breaking down of urotropin by kidney or urine and the relation of acidity by titration test and hydrogen ion concentration.

EARL B. FOWLER

SURGERY OF THE EYE AND EAR

EYE

Ball Amblyopia from Hemorrhage. *Internat M J*
9 3 22, 53 By Surg Gynec. & Obst.

Of the cases in the literature of disturbance of vision as a result of hemorrhage the hemorrhage was from the stomach in thirty-six per cent from the uterus in twenty-five per cent from the nose in seven per cent from accidental wounds in five per cent from intentional loss of blood in twenty-five per cent and from pulmonary and urethral bleeding in one per cent.

Disorders of vision following hemorrhage occur almost without exception in persons who are previously not healthy. In twenty-five per cent of cases loss of sight appeared during or immediately following the hemorrhage in twenty per cent during the first twelve hours and in fifty per cent during the first three weeks.

The ophthalmoscope findings do not correspond to the degree of loss of vision. C. G. D. LIND.

Meller Chronic Inflammatory Tumor Formations of the Orbit (Über chronisch entzündliche Geschwulstbildungen der Orbita). *Arch f Ophthal*
1901 9 3, 1222-4, 1251
B. Zentralbl f d ges Chir. Göttingen

Meller reports nine cases of chronic inflammatory tumor formations of the orbit which were observed during the last twenty years. Fuchs clinic. Clinically they appeared as malignant tumors and the operative measures were more or less radical. Histological examinations however showed that they were chronic inflammatory tumor formations which in six cases or probably of four origin. In two cases the nature as known in no the tumor originated from the frontal cavity.

Meller emphasizes the necessity of ascertaining the malignancy of the tumor by using the Bercell and Wassermann tests, mercury treatment, examination of the accessory cavities, exploratory excision, etc. before performing any operation.

KUSCH.

Mathewson A Case of Pulsating Exophthalmos. *Ophth Rev* 9 3 22, 204. By Surg Gynec. & Obst.

Mathewson reports a case of pulsating exophthalmos following fracture of the base of the skull. When first seen by Mathewson, four weeks after the accident, there was complete ptosis of left upper lid, swelling of conjunctiva, fundus normal vision fingers at eight feet in upper half field. There was no vision in lower field and no pulsation of eyeball. Vision was undoubtedly damaged by the laceration of the optic nerve. The common carotid was tied

and month later there was little proptosis and no pulsation or bruit. Vision, of course, was not improved. C. G. D. LIND.

Weldler Concerning Dermoids and Dermolipomas of the Conjunctiva. *Ophth Rev*, 9 3, 222, 20 By Surg Gynec. & Obst.

Weldler reports two cases of dermoid of the cornea, both being located at the outer lower quadrant. Both were solid, one about 5 x 9 mm the other about 5 x 7 mm in size. The only other congenital defect was the absence of a nail of the little finger of the right hand in one of the cases. C. G. D. LIND.

Wyler Enucleation Under Ciliary Ganglion Anesthesia. *Lancet-Clin* 9 3 22, 648 By Surg Gynec. & Obst.

Wyler discusses enucleation under ciliary ganglion anesthesia and follows the technique of Sowański. In summary of cases operated on he says:

Local anesthesia is certainly less dangerous and more agreeable than general for enucleation.

Upon cutting the optic nerve none of the five cases saw the flash of light which one sees so many references.

1. The method is a very easy procedure.
2. It is applicable to inflammatory conditions when infiltration has proven unsuccessful.
3. Healing is rapid.
4. He believes that this anesthesia may be popular in the future for other painful operations upon the globe.

C. G. D. LIND.

EAR

Nelson The Value and Indications for Incision of the Eardrum in Otitis Media. *Adams J Rec Med* 9 3, 12, 66. By Surg Gynec. & Obst.

The author points out the fallacy of considering otitis media as a self-limited disease and of waiting for spontaneous perforation of the eardrum. The word incise. Instead of the term paracentesis is suggested and in opening the eardrum for middle ear disease it should be freely incised. The best rule as to the location of the incision is to incise at the point of bulging if it is localized in some portion of the eardrum. When the bulging is general, the posterior inferior quadrant of the membrana tympani is the safest and best place to incise. Here an incision can be carried upward and backward to the superior posterior border with the knife plunged deeply enough to incise freely through the mucosa covering the inner wall of the middle ear. For this purpose the von Graef cataract knife is the simplest and best.

SURGERY OF THE NOSE, THROAT, AND MOUTH

Ibbotson. Some Notes on the Treatment of Atrophic Rhinitis by Iodoform. *Med. Press & Circ.* 913, xiv 653. By Surg. Gynec. & Obst.

This drug, greenish yellow organic powder was used as 5 per cent (corresponding to iodoform 1 per cent) suspension in glycerin or olive oil, and applied with swab or spray. It was very effective in trophic linitis, in preventing crusting and odors, and of value in some cases of chronic otitis media. No toxic effects were noted and the author considers it an efficient, odorless substitute for iodoform.

EARLE B. FOWLER

Gabell. An Extrem Example (Unilateral) of the Anterior Cavity Extending Between the Molar Roots. *Proc. Roy. Soc. Med.* 93, vi, Odontol. Sect. 25. By Surg. Gynec. & Obst.

This report is the case of a girl aged twenty whose anterior floor extended 6.5 mm. below the roots of the second molar. Between the roots of the first molar the floor extended down 4.5 mm. completely occupying the space between the lingual and the distobuccal roots which it as part of its axis. On the right side the floor did not extend as far as the apices of any of the teeth. There was no history of trauma disease and the wounds healed satisfactorily.

H. A. PORTER

Thiley. An Instrument for Expediting the Examination of Embedded Tonsils. *Proc. Roy. Soc. Med.* 93, Laryngol. Sect. 3. By Surg. Gynec. & Obst.

The instrument is shaped like an ordinary Frankel's tongue depressor but the distal end is replaced by a small concave bar placed at right angles to the shaft. If the outer portion of the tonsil is pressed on, the gland tends to face the observer. Often by this instrument may be exposed septal accumulation which otherwise might pass unnoticed.

EARLE B. FOWLER

Peters. Cyst of Arytano-Epiglottidean Fold Which Burst Spontaneously. *Proc. Roy. Soc. Med.* 93, Laryngol. Sect. 26. By Surg. Gynec. & Obst.

Symptoms of slight choking and loss of voice grew progressively worse over a period of eight

weeks during which time the cyst could be seen to enlarge. At the end of that time the symptoms cleared up and the serous fluid could be seen coming from the rent in the capsule. The dissection brought out the necessity of using galvanocautery or removing the cyst completely to prevent reilling.

EARLE B. FOWLER

Hopenwell-Smith. The Structure of the Dental Pulp in Ovarian Teratomata. *Proc. Roy. Soc. Med.* 93, vi, Odontol. Sect., 31. By Surg. Gynec. & Obst.

In the discussion of a paper of last year Bland Sutton expressed the opinion that it would be of interest to know if the teeth found in ovarian teratomata possess nerves. The study of specimens which had been fixed en masse in formalin, rapidly decalcified, embedded in saturated solution of dex-urine and cut on either freezing microtome showed small dimensions of the pulp its outline less regular than the normal organ and varying with the shape of the tooth itself. The pulp is composed of a tissue closely resembling that of normal teeth. It has delicate connective tissue consisting of ramified cells embedded in slightly fibrous stroma and granular transparent basis substance, plentifully supplied with blood vessels and nerves. The odontogenic zone is clearly seen, the odontoblasts are short and thick, and the blood vessels run in the direction of the long axis and are accompanied by prominent bundles of medullated nerve fibers which are large in proportion to those of adult teeth.

H. A. PORTER

Von Tappiner. Tuberculosis of the Gums (Über Zahnfleisch-tuberkulose). *Deutsche Zeitsch. f. Chir.* 93, April 339. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Twenty-six cases of primary tuberculosis of the gums have been reported. Thirty others appeared in cases with pulmonary lesions. The symptoms consist of swelling, sponginess, ulceration and bleeding of the gums. In doubtful cases microscopical examination decides the question. Healing is usually very rapid after radical removal of the diseased tissue. The author describes one case.

KROG

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INTERNATIONAL ABSTRACT OF SURGERY

NOVEMBER, 1913

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ANESTHETICS

Kruskal. Intratracheal Ether Anesthesia. *Surg. Gynec. & Obst.* 9, 3, xvi, 7.
By Surg. Gynec. & Obst.

Kruskal reports 84 cases of intratracheal ether anesthesia with the Elsberg apparatus. While his experience in thoracic surgery is limited only to cases of empyema and lung abscess, he finds this method of decided advantage in operations where the anesthetic is in the way or the position of the patient makes the administration of anesthetic awkward. In cases of obstruction to the upper air passages this method eliminates all the dangers of the ordinary methods of anesthetization.

In the good and feeble the relief of respiratory effort removes the strain on the cardiovascular system and thereby minimizes post-operative shock. The return current of air prevents the inflation of blood vessels and eliminates a decided factor in the production of aspiration pneumonia.

The technique of administration is that advocated by Elsberg. He finds that the introduction of the catheter has been extremely simple with the use of the Jackson laryngoscope. The only difficulty experienced with the method is the fact that in a number of his early cases the anesthesia had been insufficient and it was found impossible to cause complete abdominal relaxation to permit thorough exploration.

McMechan. Oxygen and Anesthesia. *Internat. J. Surg.* 9, 4, xvi, 505. By Surg. Gynec. & Obst.

McMechan quotes the experiments of Gatch in over-ventilating the lungs post-operatively with oxygen in the presence of carbon dioxide retention, and after an exhaustive personal experience with the method of the close drop-ether anesthesia, states that not only is it successful in eliminating

the remnants of the anesthetic from the alveoli of the lungs, the circulation and the cellular tissues, but also that after an interval of such rebreathing, depending in length upon the time of previous etherization, patients awaken in rational possession of their faculties, have no nausea or vomiting, unless the necessary manipulative trauma of the operative procedure has evoked such reflexes, and seldom encounter such dreaded post-anesthetic sequelae as acrocyanosis, uræmia, acute dilatation of the stomach, pseudo-obstruction of the bowels or pneumonia.

Bunde. Experiences with Anæstheticum Novum (Erfahrungen mit Anæstheticum novum). *Deutsche Zahnärztl. Wochenschr.* 9, 3, xvi, 507.
By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

Anæstheticum novum consists, pro et contra novocain, of suprarenin, 0.05, extract. cort. Hamamel.

In tr. chloro. 0.0084 sterilized in the utroclave. It is prepared in Dr. Gläumer's apothecary shop in Kassel. In 1000 cases of dental operations in which this anesthetic was used the author observed complete anesthesia without unpleasant accessory effects, such as swelling of the soft parts, after-pains or late hemorrhages. The time interval was one-half minute for the upper jaw, one to ten minutes for the lower jaw and three to fifteen minutes to produce anesthesia due to loss of nerve conductivity with injections of one-half to one cm. Hypod.

Schütz. Magnesium Narcosis (Zur Kenntnis der Magnesiumnarkose). *Wien. Klin. Wochenschr.* 19, 2, xvi, 745.
By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

In animals subcutaneous injections of a magnesium salt produce narcosis which can be stopped by injections of calcium compounds. Kocher utilized these properties in the therapy of tetanus. Schütz's

investigations have led him to the following preliminary results. After a single injection of non-lethal, sleep-producing dose of $MgSO_4$, $1 MgCl_2$, magnesium could be demonstrated in the blood liver and in traces also in the brain. Repeated injections lead to deposit in the brain which may be inhibited by calcium chloride. These relations remained uncertain in muscle. Sodium valat occasionally increases the sensitiveness to

magnesium. Experimentally the inhibitory action of calcium could be prevented by sodium valate. The experiments indicate that either small changes in the ionic cell content are enough for narcoanalysis or the magnesium invades the cells only secondarily and is primary at the cell membrane. As yet nothing can be said as to the point of attack of magnesium. Some consider it central others assume act on similar to curare. WIGGINT.

SURGERY OF THE HEAD AND NECK

HEAD

Spude, H. Successful Treatment of Cancer of the Face by Simple Puncture with Ferrous Oxide (*Erfolgreiche Behandlung von Gesichtstumoren durch einfache Einstichbehandlung von Eisenoxydhydrat*). *Zentralbl. f. Chirurg.* 9, 3, 212, 32. By Zentralbl. f. d. ges. Chir. 1 Grenzgeb.

The author has succeeded in healing over 200 complicated carcinomas of the face quite rapidly by injecting ferrous oxide into the base of the ulcer. The efficacy of this regional treatment was enhanced in one case of extensive carcinoma by the subcutaneous administration of atropine and arsenic. Spude expresses the hope that he may be able to heal inoperable or recurring carcinomas of the internal organs by the same principle (though with some what altered technique as regards its application). GIERMAN.

Murphy J. B. Ankylosis of the Jaw—I terposition of Flaps from Mucosa of Mouth. *Surgical Clinics of John B. Murphy* 9, 1, 11, N. 3. By Surg. Gynec. & Obst.

The patient, male of 3 in July 1909 had an abscess about molar tooth in the right upper jaw. It was not treated for 3 weeks at the end of that time the abscess was opened from within the mouth and cauterized. A week later an external incision was made. Only a little pus was evacuated. Shortly after the operation ankylosis began to develop and steadily grew on. A year after the onset an operation was performed to relieve ankylosis, but was unsuccessful.

There are three types of ankylosis in the jaw: fibrous ankylosis, bony ankylosis and ankylosis arising from cicatrices outside the joint. The case described above proved to be of the extreme articular fibrous type. A solid band extended from the outer side from the upper to the lower jaw and closed back to the ramus. The anesthetic was given through the nose, and the mouth was held open with a gag. The adhesions are separated very carefully with scalpel and scissors, the finger being used as guide. After much work, the mouth was opened wide. The tongue was drawn then to the opposite side and two flaps were interposed one from the floor of the mouth and the other from hard palate. Both

were tongue-shaped, the lower 2 inches long and 1/2 inch wide, the upper 2 inches long and 1 inch wide. The base of the upper flap was directed toward the alveolar process, and that of the lower toward the tongue. Both were swung out to cover the raw surface left by dividing the adhesions. The tips of the flaps were sutured to the inner margin of the gum and the cheek. All suturing was done with fine catgut, and no tension was exerted on the flaps. L. J. MITCHELL.

Park, R. Conclusion Drawn from Quarter Century's Work in Brain Surgery. *N. Y. St. J. Med.* 9, 3, 212, 303. By Surg. Gynec. & Obst.

The paper opens with a short history of the advance made in brain surgery. The author then takes up the various brain lesions and discusses the question as to whether there has been any change in the treatment in the last twenty years. He states that the expectations have been much greater than the realizations. In the treatment of injuries of the cranium the results are gratifying. As far as the vital structure of the brain permits, the resources of day leave little to be desired. He says further—I the treatment of hemorrhage spontaneous or traumatic, great advance has been made in the treatment of hydrocephalus not so much here the condition itself is almost inoperable. In the matter of technique great advances have been made. We now have very nearly perfect contrivances for any manipulation which the construction of the parts may justify. Never until recently for instance have instruments been devised by which it appears impossible to injure the brain while perforating the skull. These, Hodson, of Atlanta, has finally succeeded in producing and with them, as with forceps also of his device, the matter of raising osteoplastic bone flaps of almost any size or shape has been greatly simplified. With such instruments as these it is therefore comparatively simple matter to carry out operations intended for decompression, which shall, I am probably prove most effective in the relief of symptoms of brain pressure produced by lesions not permitting radical attack.

The surgery of the hypophysis and one or two other of the recent methods of attack for particular indications are yet so recent as not to come within the scope of this paper. They give every indication

tion of brilliancy and promise but are still on trial.

The author comes to the following conclusions:
The surgery of the nose in general is still disappointing so far as radical measures are concerned. In it but a very small percentage of cases decomposition operation will better serve the purpose. With regard to leprosy precisely the same statement cannot be made because here unless the focus is found practically nothing is accomplished but the localization of this focus is but slightly more accurate than formerly. In the matter of the leprosy and the psoriasis the operative measures are simple and the technique sufficient as in one respect the preservation of fresh discharges. For more accurate notions regarding etiology are needed, and better discrimination between surgical and non-surgical cases.

Facial surgery has then made great advance but the hopes raised 1883 has not yet been fully realized in 1913. LANGE, L. C. M. D.

Nowikoff W. N. A New Way of Attacking the Hypophysis (Ein neuer Weg für Längs- und Hypophysen). *Zentralbl. f. Chir.* 9, 3, 11, 000.
By Zentralbl. f. d. ges. Chir. u. i. Genaue.

Nowikoff has modified the Liseakoff method of temporary resection of the superior maxilla and the nose and worked out a method which renders broad access to the hypophysis and the under surface of the pons and the elongated medulla. The procedure is as follows: A incision is made over the zygomatic arch along the lower border of the orbit over the root of the nose, and down along the opposite border of the nose round the nostril to the mouth. The upper lip is divided in the middle. The pericardium is separated from the lower orbital wall to the inferior orbital fissure. The bone is separated from the tear sac and the zygomatic bone with its frontal processes is then exposed. The zygomatic arch and the frontal processes are divided. The bony framework of the root of the nose is removed through after the production of a C-shaped longitudinal incision is made in the mucous membrane of the hard palate of the opposite side and the bone and the aperture pyriformis are divided with a chisel.

The nasal septum is divided from the opening at the root of the nose. The maxillary bone and the nose are then be levered from their bed and thus allow broad access to the base of the brain. The sphenoidal sinus comes clearly to view and its anterior wall is chiseled away. By means of a cochotome the other wall of the sphenoidal sinus is then removed in toto. This exposes the upper wall of the sphenoidal sinus which at the same time is the floor of the sella turcica. This is carefully opened for a short distance. When the operator has made sure that the cavernous sinus is not immediately above it the opening is enlarged sufficiently to expose the hypophysis. Without much difficulty the body of the sphenoid bone and of the basal part

of the occipital bone can be removed to expose the lower half of the pons and the elongated medulla. After the superior maxilla and the nose have been replaced the base of the brain can be drained to the outside. The author has performed this operation so far only on the cadaver. WOODMAN.

NECK

Von Mutschelbacher T. The Treatment of Scrofulous Lymphatic Glands of the Neck (Wie behandelt man skrofulöse Halslymphdrüsen)? *Ber. Klin. Wochenschr.* 9, 3, 1007.
By Zentralbl. f. d. ges. Chir. u. i. Genaue.

The author's experience includes about 1500 cases of lymphomata colli which he observed at the Ruzsics clinic in Budapest. Of these 1100 per cent were operated upon. The others were treated conservatively. There are three types of this disease, each of which calls for a particular method of treatment. Type I is characterized by short, hard, non-calcified lymph glands. Of this kind there are 74.5 per cent of the cases. Nutritious diet and iron and arsenic preparations, climatic treatment in the seashore or in the mountains, sunlight and Röntgen-ray treatment give quick and good results. If the glands soften they should be punctured. Internal applications (iodine and mercury ointments) and poultices should not be used. Type II is characterized by closed and suppurating glands. Of this form there are 7.5 per cent of the cases of this disease. Since after free incision, healing takes place very slowly and leads to deforming scars, treatment ought to be restricted to puncture followed by injections (the author recommends iodine-formalin solution). Only in those cases that are complicated by other manifestations of tuberculosis (laryngeal or bone tuberculosis) should an open incision be made. In Type III the glands are suppurated and form fistulous tracts through the skin. They should not be excised, curetted, nor cauterized. Sunlight and general treatment give very good results. The application of green soap is recommended.

In all cases of glandular involvement of the neck Waldeyer's lymphatic ring in the pharynx should receive attention and appropriate treatment.

FORBES

Walzfeld G. The Effect of Thyroid Gland upon Blood Formation; a Contribution to the Physiology of the Thyroid Gland. Number 2 (Hitzbildung und Schilddrüse. Beiträge zur Physiologie der Schilddrüse. Abtheilung 2). *Arch. f. d. ges. Physiol.* 9, 3, 1013.
By Zentralbl. f. d. ges. Chir. u. i. Genaue.

Walzfeld attempted to discover by means of experiments on rabbits whether the effect of lack of oxygen on the formation of blood is attributable to an increase in the activity of the thyroid gland. In normal animals he noted the well-known effect of high altitude upon the number of erythrocytes, but in animals whose thyroid glands had been

removed the increase did not take place. The regeneration of the blood after phenylhydrazin anemia was much less proportionally in animals whose thyroid glands had been removed than in normal animals, this difference being most marked at high altitudes (5 per cent in abnormal animals as compared with 62 per cent in normal animals).

The hemoglobin of the blood increased at high altitude in normal animals but decreased in animals without a thyroid. The regeneration of the hemoglobin be found as not parallel to that of the erythrocytes but it took place at high altitude even in animals without thyroid (carbot serum from animals without thyroid as as effective as that from animals that were normal. The use of this serum caused decrease rather than an increase in the red blood cells in animals without thyroid. Thyroid extract several days after Blansfeld had ceased administering it caused marked increase in the red blood cells. From two metabolism experiments carried on after the discontinuance of the administration of the thyroid extract and in which there was noted increase in the red blood cells but no increase in the nitrogen excretion, the author concludes that thyroid material does not directly influence either the nitrogen output or the nitrogen retention. In other metabolism experiments showed that the decomposition of uremia caused by the lack of sufficient oxygen both the thor attributed to increased thyroid activity did not recur when the supply of oxygen further limited. Blansfeld concludes from this that when the defect of oxygen is slight it causes stimulation of the thyroid activity but when it is more pronounced and of longer duration it inhibits the thyroid activity. This conclusion agrees with those of Reib and Blauel.

Blansfeld conclusions are as follows. High altitude anemia and Carbot serum cause new formation of red blood cells (as does the administration of thyroid). This depends upon the stimulation of the thyroid and an increased secretion. New formation of erythrocytes which depends upon the stimulation of the bone marrow by the thyroid secretion, therefore it takes place only when the thyroid is active. The albumin that is retained after the discontinuance of the administration of thyroid is used in the formation of the new red cells. An increase in erythrocytes does not take place during the administration of thyroid or during a period of hypersecretion since at this time there is an albumin deficit. All of Blansfeld findings need clinical confirmation. KROGER

Solara G. Osteosarcoma of the Thyroid Gland (Osteosarcome de la glande thyroide). *Chir. (Chir.)* 93, 321. By Journal de Chirurgie.

This rare observation is especially interesting from the point of view of pathological anatomy.

As in most of the cases so far reported, the osteosarcoma described by Solara developed in a gland that was already diseased (goiter). It affected the

left lobe and it was possible to readily enucleate it like a goiter. An infiltration, however, occurred with great rapidity.

Histologically this growth was an osteosarcoma similar to those that occur in bones. The sarcomatous tissue is the youngest and most active part of the tumor and by successive modifications it changes to osteoid, bony and cartilaginous tissue. In the recurring tumor there were found sarcoma cells almost exclusively fibrous but little bone and no cartilage.

The osteosarcoma may have had its origin in an osteogenic rest in the thyroid derived from the bronchial apparatus, but the author prefers to consider it a direct metaplasia of the connective tissue.

FRANK FARRER.

Gatti, C. Echinococcus Cyst of the Thyroid (Kyst à Echinocoques de la thyroide). *Chir. (Chir.)* 93, 321, 73. By Journal de Chirurgie.

A hydatid cyst of the right lobe of the thyroid of months duration as observed in child of five. An attempt was made to enucleate the cyst proper and it capsule, but it ruptured and thyroid tissue had to be removed.

The author makes critical study of the literature of the subject and as treatment, advises in order of preference, enucleation, partial resection of the thyroid or marsupialization.

Attention is called to the fact that Gatti uses the term "enucleation" in a sense different from that in which it has been used where the work of Dieffenbach. Gatti speaks of enucleating the ectoparasitic sac formed by all of the parasite. That, as in hydatid cyst of the liver would be radically impossible. One may agree with Gatti, however, if the latter proposes enucleating the hydatid cyst proper, such in the case cited could be best easily accomplished as there were no adhesions between the cyst and proper and the thyroid capsule surrounding it.

FRANK FARRER.

Jamin F. The Combination of Thyreosis and Nephrosis (Über die Kombination von Thyreose und Nephrose). *Deutsche Zeitschrift für Nephrologie* 19, 3, 216-219, 235 (Festschrift von Sertouner). By Zentralblatt für die Gesamte Medizin.

The author describes cases in which more or less definite picture of thyreosis as accompanied by definite disturbances in the kidney. That this is not merely coincidence was proven by the effect that the one exerted upon the other. The rarer cases were represented by the so-called orthostatic albuminuria, especially that occurring in young girls. Although this condition is frequently designated as chlorosis, the accompanying rapid enlargement of the thyroid gland and the blood picture proves that it belongs to the group of thyroid disturbances. Besides the thyroid, also other organs of internal secretion may be involved and may produce symptoms difficult to interpret.

In many cases disturbances of development

are soon noted. In fully developed hyperthyroidism, disturbances in the kidney belong to the clinical picture. These cannot be attributed to the cardiac injury alone; they must have some specific cause. They may come and go with the change in the severity of the disease. In one case that is described in detail the thyrotoxic patient had a very unstable nervous system and a prolonged increase in the blood pressure. He suffered also continued disturbance in the kidneys that was manifested by albumuria and polyuria. Two other cases showed similar findings. Common to both was the thyroids together with the symptoms of status thymolymphaticus, hypertrophy of the left ventricle, prolonged increase in the blood pressure and kidney disturbance. The female sex of mature age seems especially predisposed. The increased blood pressure may be borne for years.

The pathogenesis is not definitely known. It is highly probable that disturbance of internal secretion is the primary factor. Accidental injury to the kidneys by infection or toxic agents cannot, of course, be absolutely excluded, but the kidney disturbance will be much more severe if the sympathetic and autonomic nervous system has become hypersensitive by reason of the thyroids. The high blood pressure in these cases appears to be due to an increased peripheral resistance which is of functional rather than a morphological character. Atherosclerosis is not a factor; the vascular system is still capable of adapting itself and it is for this reason that the increased blood pressure can be well borne. As to whether a internal secretion of the kidney enters into consideration cannot be stated; at this time such secretion should manifest itself by stimulating action upon the suprarenals. If the observation that thyrotoxic symptoms may occur in old people with contracted kidneys and hypertension, parallel is found to the cases described.

The therapy demands much care; these patients do not stand operation as well as others. Ligation of the vessels may be attempted first. Digitalis is not of use.

LITHOKOPIA.

Mayo, C. H. Surgery of the Thyroid; Observations on Five Thousand Operations. *J. Am. Med. Ass.* 1913, 10, 131. By Surg., Gynec. & Obst.

Sporadic, endemic and epidemic goiters are found in all parts of the world, among all people and most animals. As yet we have no knowledge of specific infecting agent which can be regarded as the causative factor in the production of goiter. The work of the Goiter Commissions and the reports of those observers who have made study of the etiology of goiter make it quite apparent that whatever the agent, it seems to be more readily conveyed by water than by any other medium, although water is probably not the sole carrier. The more recent progress in the non-surgical treatment of goiter seems to indicate the use of thyroid, iodol and iodine as intestinal antiseptics. Thyroid gland has an uncertain potency yet apparently produces favorable

results in the early treatment of simple goiters. In exophthalmic goiter temporary improvement may be obtained by the use of the X-ray. The cytolytic serums for specific action on the thyroid have not been out in results the expectations of the medical profession. The thymus gland and the thyroid are undoubtedly intimately associated in the growth and development of early life. The thyroid may be of great use in advanced middle age, compressing the trachea at, or just above the bifurcation. Such complications are more common and more grave in goiters of the hyperplastic type. Large right-sided goiters frequently produce paresis of the left recurrent nerve, and it is therefore advisable to make a laryngoscopic examination before doing a thyroidectomy. Extensive exposure of the nerve is advisable only in an operator's early experience, in operating on nodular thyroids which extend beneath the trachea and have displaced the nerve. The scar tissue which results from the traumatism of free exposure may lead to secondary paresis. In performing thyroidectomy the best exposure is obtained through a transverse incision low in the neck, the skin and platysma turned together both ways from the incision. Should further exposure be necessary the sternohyoid can be sectioned high in the exposed area. In simple goiter it is best to extirpate a greatly enlarged lobe. If both lobes are symmetrically enlarged division of the isthmus with double resection of glands is indicated for the best cosmetic results. Midline, encapsulated adenomas should be enucleated with division of the isthmus. Lateral encapsulated adenomas may be enucleated or the whole lobe extirpated. If symptoms of hyperthyroidism are present extirpation is indicated. Ending malignancy the mortality in operating on goiters is very low (3) and varies but little in the so-called simple goiters, in which class are included occasional complications, and the cases of so-called exophthalmic goiter with hyperplastic glands. In the 5000 operations on the thyroid in the clinic at St. Mary's Hospital during the 5 years ending May 4, 1913, there were 336 operations for simple goiters which included transplantations in cretine, 59 operations for malignancy (5 carc. 7 sarc.) and no for syphilitic thyroid. There were 195 operations for exophthalmic goiter and 309 early operations which were not classified.

In discussion, CRILE confirmed Mayo's conclusions by his own experience, having operated over eight hundred cases of goiter of all types and varieties. He has seen few cases in which cancer of the thyroid, not suspected before operation, but found by the pathologist, was cured. The safety of the operation for colloid goiter is so great at the present time that if the patient demands operation, one is justified in removing the gland for cosmetic reasons. The care Mayo suggested in the preservation of the voice is excellent. Crile has found that no may take out the entire lobe carrying the dissection right to the edge of the capsule, using small hemostats, and keeping bloodless field so that no can see

the lymph vessels as they run out of the gland from beginning to end of the operation. In this way it could be impossible to remove either parathyroid or to injure the recurrent laryngeal nerve.

Passing to another subject he wishes that commission might be appointed for the purpose of investigating the adolescent period of children living in gouty districts. Crile believes that the syrup of ferrous iodide in five minim doses, three times daily for periods of month during every year will control nearly all cases of simple hypertrophy. One of the factors in the production of adolescent goiter lies in the geological change in the constituents of the earth where iron is not found as it once was. He finds that chemically one can make a very accurate prediction of the pathological condition of the gland. There is no more doubt in his mind as to the benefits of operation for exophthalmic goiter than of opening the abscess. Patients confirm that view and the clinician has grown not through references by physicians, but through references by patients.

He believes that there is a general feeling not only among surgeons but also among patients, that exophthalmic goiter is a disease that should not be allowed to go on until the stage of degeneration is reached. Crile believes that the late results of the disease are largely under control. One can operate now and control the hyperthyroidism by the principle of anacarcinoma, and not have a single change for the worse at the end of the operation, no matter how severe the case, how large the gland, or how rapid the pulse rate.

Porter: Injection of Boiling Water in the Treatment of Hyperthyroidism. *J. Am. Med. Ass.* 9, 3, 1st, 82. By Surg. Gynec. & Obst.

Porter experiences in the treatment of aneurysms by the injection of boiling water as first advised by Wyeth, led him to use this method in three classes of cases:

1. Patients too sick to be safe surgical risks, and those having dividing or subexternal goiter the removal of which would be extra-hazardous.

Patients presenting mild symptoms

3. Patients who refuse major surgical procedures. He has treated over twenty cases, representing in all more than one hundred injections. From one to three injections were given in each treatment, of from 4 to 30 minims. The injection of boiling water into the thyroid gland is a safe procedure. The immediate effect of the injection is destruction of thyroid tissue and colloid. Further destruction of thyroid cells results from the formation of fibrous tissue consequent to the injection. L. G. Dr.

Dufour: P. Two Cases of Hemithyroidectomy for True Exophthalmic Goiter of Tubercular Origin. (Deux cas d'hémi-thyroidectomie pour goitre exophthalmique vrai d'origine tuberculeuse). *Lyon med.*, 9, 3, 1st No. 4. By Journal de Chirurgie.

Dufour reports two cases in which Leriche performed partial thyroidectomy for exophthalmic

goiter. The first was that of patient 41 years old who had had an enlarged left lobe for two years with palpitation, tremor, diarrhoea, and tachycardia but only slight exophthalmos. Fifteen days after partial thyroidectomy had been performed only the tachycardia remained and this was improved. The second case was that of a patient 33 years old who had had goiter since she was 19. Symptoms of Basedow's disease appeared in September 9, 1913. In May 9 she had an acute Basedow's disease and after symptomatic treatment to improve her condition she was operated upon in August, 1913 under local anesthesia. The tachycardia and nervousness have disappeared but after five months the patient still has slight tremor although she is otherwise in excellent health. Four other partial thyroidectomies performed by Leriche and Pocquet have had equally good results. Two of the patients have remained in good health for four years. The finding of tuberculous lesions in two cases tends to substantiate the statement of Pocquet and Leriche that certain exophthalmic goiters are of tubercular origin. J. Demery

Eppinger: II. Basedow Disease (Die Basedowische Krankheit). *Handb. d. Verh.* 9, 3, 1v. By Zentralbl. f. d. ges. Clin. u. L. Grenzgeb.

The article is a discussion of Basedow's disease on the basis of our present knowledge and the author states the condition. After enumerating in detail the well known symptoms and weighing their relative importance the author enlarges on his own theory. Eppinger believes that the theory of Kossel and his co-workers, that the condition is dysthyreosis, is incorrect. The investigations of A. Kocher as well as other considerations, force us to retain the theory that it is hyperthyroidism. Special reference is made to Kocher's studies on lymphatic centers in goiter disease. Persistent thyrmus and Basedow's disease are not necessarily associated.

The paragraph on differential diagnosis is comprehensive. Typical cases are easily recognized. Atypical forms presenting only one or two symptoms can be classified as sympathetic or apathetic.

Other subjects discussed are: The relation of the thyrmus to Basedow's disease; struma nodulifera; the various cardiac findings in goiter; glycosuria in Basedow's disease; Kocher's iodine and Basedow's disease in children. The numerous complications of the disease can best be studied from the original article. Considering the brilliant operative results of Kocher—85 to 90 per cent cures, the author recommends the surgical treatment decidedly. However, removal of the thyroid is not without risk. Even Kocher reports mortality between 3.4 and 6.7 per cent. Recurrences are not rare. A vascular appearance of the goiter constitutes an indication for operative therapy. X-ray treatment should not be used. Although the best results are obtained by operation, a dietetic and hygienic régime is essential. Of medicinal remedies the w-

those has successfully used atropin sulphate in pills (0.0005) two to three times daily especially in cases with severe diarrhoea. Injections of adrenalin are suggested—so to 30 drops in 50 gm. of warm water should be allowed to flow in slowly for 5 to 10 minutes. Calcium carbonate is also recommended. If there is no improvement at the end of from one

to three months under medical care, operation is indicated. The author supports Mayo's suggestion to give atropine (belladonna) before a general anesthetic is administered, for he believes that the so-called thymus-death is nothing more nor less than a result of shock which seems to affect principally the vagus. DUDLEY SCHULTZ.

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Evans. Cancer of the Breast. *Practitioner* Lond. 9, 2, 225, 7. By Surg. Gynec. & Obst.

The author believes the mode of local extension of carcinoma is best described by the term "infiltration process" since it travels by way of the lymph channels, and does not spread like a wave from a central focus, as would be implied by the term "permeation." Attention is directed to the clinical importance of the inconstant deep paraxillary lymphatic gland situated at the outer border of the breast. When secondarily invaded it may lead to the belief that two primary foci exist. Other diseases may involve it and thus lead to confusion in diagnosis. Retraction of the nipple or change of the breast is not in itself an indication of malignancy but if gentle fondling of the breast fails to cause a contractile response of the nipple we have sign of some value.

The teaching that chronic interstitial mastitis may become malignant is considered unsound by the author for the reason that fibrous tissue cannot revert to proliferating cellular growth. It is using lactogen as an aid in differentiating malignant growths from chronic interstitial mastitis with some success.

Interesting papillary growths from the ducts—either intracystic or protruding—are to be considered in the differential diagnosis of carcinoma. Also in every case, the involvement of supraclavicular lymph glands, secondary to either carcinoma of the breast or to carcinoma elsewhere in the body should be carefully sought for.

The author believes that early thorough, radical removal, which includes the pectoralis major muscle as well, is the only course to pursue. F. R. RILEY.

Ritter. The Prognosis of Cystadenoma of the Breasts (*Der Prognose des Cystadenoms mammae*). *Monatsh. f. Geburtsh. Gynäk.* 913, 225, 679. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Following the removal of both breasts on account of cystadenoma, carcinoma developed in the axilla, which is now recurring. At the time of the removal of the cystadenoma, microscopic examination revealed no indications of carcinoma within it.

The author explains the extraordinary growth as follows. In seven cases operated upon for cystadenoma, he found lymph glands in the

axillary space which seemed to be still in a state of development and of a type that occurs only in cancer of the mammary gland. The presence of these growths in the cases described makes it seem probable that, though cystadenomata are generally benign, they nevertheless possess characteristics of malignant tumors which may cause the development of cancer after they have been removed. Ritter therefore advises the extirpation of the regional lymphatic glands in every case of cystadenoma of the breast. ZIMMERN.

Gourdon. Bilateral Sterno-Clavicular Dislocation of Congenital Origin (*Luxation sterno-claviculaire bilatérale, d'origine congénitale*). *Ann. d'otolaryng. Par.* 9, 2, 17, 304. By Journal de Chirurgie.

In this article Gourdon reports the case of a boy of 5 who was suffering from slight dorsal kyphosis and bilateral sterno-clavicular dislocation. The dislocation was complete. Gourdon points out the difference between luxation of this kind and the subluxations often noted in young girls. In the case reported it was possible by palpation to twist the entire lateral end of the clavicle around. The movements of the sterno-clavicular articulations were much exaggerated and sluggish. The attention of the boy and his parents had never been drawn to the luxation of the articulations. Gourdon believes that although the dislocation was not noticed until late, it was a deformity of congenital origin and was due to the absence of interarticular fibro-cartilage. He believes, rather than it was the result of an atrophy of the osseous extremities and a malformation of the articulations and the entire ligamentous connection.

The prognosis is bad, as the deformity has a tendency to become exaggerated and it is difficult to correct by any method (arthrodesis, resection of the clavicle bandages, pressure, or casts, etc.)

Gourdon recommends no therapeutic treatment for such cases. The projection of the clavicle is of little importance if, as in the case reported, the patient has the use of his limbs. ALBERT MOOREHEAD.

Sehepelmann, E. Thoracotomy and Hydrothorax (*Thorakotomie und Hydrothorax*). *Klin. Wochenschr.* 9, 2, 21, 68. By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

The author has conducted a series of experiments on animals to verify the conclusions of Teich as to

the effects of artificial hydrothorax. Single and double pneumothorax were produced in guinea pigs under the influence of morphine. Observations were then made of the frequency of respiration after removal of the pressure and also after the injection of physiological salt solution and olive oil into the pleural cavities under normal pressure. With unilateral pneumothorax and normal pressure the type of respiration was favorably influenced to a slight degree by the injection of salt solution, and to a greater degree by the injection of oil. The good effects were more marked when the quantities of the fluids injected were large (several tablespoonfuls). When both pleural cavities were opened neither the salt solutions nor the oil had any effect upon the rate of respiration.

The explanation given by Schepelman for these phenomena is as follows: In unilateral pneumothorax the weight and pressure of the injected fluid put the mediastinum at rest and does away with the furious mediastinal flapping, so that the normal lung can breathe quietly. When both pleural cavities are opened mediastinal function is suspended and, as a result, the beneficial effect of injections of fluids have no chance to manifest themselves. The results of the author's experiments do not agree with the theories of Teak, either with regard to the effects of artificial hydrothorax or to the explanations in general. Nevertheless, Schepelman advises, beside the free opening of the thorax, the injection of warm physiological salt solution into the pleural cavities to prevent the harmful drying of the endothelial surfaces of the pleura, and to minimize the danger of infection. At the end of the operation, decided increase in pressure of the fluid washes out any germs that may have entered. Moreover, the salt solution remaining in the chest is more easily and quickly absorbed than the air in pneumothorax.

Drex.

Schur H., and Plöschke, S. The Indications for Artificial Pneumothorax in Pulmonary Tuberculosis (Zur Indikationsstellung der Pneumothoraxbehandlung bei Lungentuberculose). *Wien. kl. Wochenschr.* 93, xvi, 961.

B. Zentralbl. f. d. ges. Chir. Gernsbach.

The authors briefly report their experiences with the pneumothorax treatment in cases of pulmonary tuberculosis. The best results were obtained in severe cases that showed marked involvement of one side only. The general condition improved rapidly, the temperature fell, and the appetite increased. In general, the results obtained by the authors with insufflation of nitrogen were similar to those of other investigators; no actual cures were observed. An exudative pleurisy was frequently observed but it always disappeared later.

The authors conducted experiments on animals to determine the cause of the favorable influence of pneumothorax upon tuberculous lungs. The results showed that the compressed lung can be infected artificially with tubercle bacilli introduced intra-

venously or by inhalation quite as readily as the healthy lung, and that therefore the favorable influence of the treatment is due, not to the compression, but to the changes in the connective tissue of the lung that occur in the period of pneumothorax compression.

From these results, as well as from the clinical findings, the authors conclude that in mild cases without severe general symptoms no improvement can be expected from the insufflation of nitrogen. When the constitutional symptoms are severe, however, and are due principally to involvement of the lung, this treatment is of value, also in such cases, by reason of the compression of the lung and the resulting blocking of the blood and the lymphatic circulation, the absorption of toxins is made much more difficult. Advanced involvement of the other lung, cardiac defects, kidney affections, and extensive pleural adhesions are contraindications to the treatment.

Drex.

Kaufmann, K. The Technique of Artificial Pneumothorax (Zur Technik der künstlichen Pneumothorax). *Internat. Zentralbl. f. d. ges. Chir.* 93, vi, 330.

By Zentralbl. f. d. ges. Chir. Gernsbach, d. Gernsbach.

Kaufmann gives Brauer's method of incision the preference over the method of puncture. The disadvantages of the former are the occurrence of tissue emphysema, which is seldom absent, and the formation of pulmo-cutaneous fistulae. In the procedure is not successful. Kaufmann mentions two personal observations of these unfortunate complications. His has attempted to overcome the deficiencies of both methods. His procedure, which is practical and has obtained good results for the last three years in the sanatorium of Schönberg, is as follows:

The skin and also the underlying tissue are infiltrated with the anesthetic fluid as far as the pericostum of the inner margin of the upper rib. A trocar is inserted into the space just inside the Salomon cannula approximately 5 mm in thickness, is then plunged in up to the infiltrated rib near its inner border. The cannula is withdrawn and the Salomon cannula is inserted up to a certain mark on the trocar, which is well fixed on the rib. The patient is then told to breathe deeply. At the same time under gentle but steady pressure the trocar with the cannula is inserted into the intercostal space. The blunt point of the cannula thereby immatures itself between the bundles of intercostal muscles. The tense pleura is penetrated with one stroke, the cannula being held somewhat obliquely. The lateral opening of the cannula, the position of which is indicated by the mark above mentioned, should be turned toward the pleural opening either above or below. A soft sound is used to determine whether the free cavity has been reached. Oxygen should always be introduced first. For this purpose a small modification of Brauer's nitrogen apparatus is essential. The latter is described by means of a diagram.

SCHNABER.

Tuffier T. Final Result of an Intrathoracic Sub-pleural Graft in Case of an Intrapulmonary Suppurative Cavity on the Right Side (*Résultat définitif d'une greffe intra-thoracique sous-pleurale dans un cas de cavité suppurée intra-pulmonaire droite*) *Bull et mem Soc de chir d'Paris* 9 3 xxxix, 740 By Journal de Chirurgie.

Tuffier reports the case of a patient who had a depression in the bony framework of the thorax which was due to a large intrapulmonary cavity caused by gangrene. He remedied the depression by grafting into the pleural cavity a large lipoma that had been preserved on ice. At the present time, two years later the patient is in the best of health the thorax is symmetrical the cicatrix elastic, white and without dimensions. There is no persistent expectoration and auscultation there are no abnormal sounds. The patient works with out fatigue or pain. J. Dewey

TRACHEA AND LUNGS

Derjushinsky R. E. Artificial Breathing Continued Successfully for Fifteen Days (*Erfolg reiches künstliches Atmen im Lufte von 5 Tagen*) *Verhandl d XII Kongr russ Chir* 9 3, xix, 203 By Zentralbl f d ges Chir. Groughev

Derjushinsky reports the only case that is known of artificial respiration continued successfully for fifteen days. The patient had pain in the neck and after six days was admitted to the hospital with paresis of all the extremities and facial paralysis on both sides bilateral lagophthalmos, and paresis of the muscles of mastication. The pupillary reflexes were weak, and Babinsky reflex was noted. The temperature and the condition of the internal organs were normal. At the end of two weeks there was complete paralysis of all extremities and gradual cessation of respiration. Artificial respiration was then begun, and as spontaneous breathing did not return it was continued for fifteen days without interruption. For the first three days the pulse was rapid (100-120) from the fifth day on it was normal. Spontaneous breathing began gradually after fifteen days, but stopped after five days. Artificial respiration was then carried on for three days longer after which normal breathing was resumed. For the following three weeks the patient suffered from crampy pneumonia and intestinal paresis. Muscle atrophy was marked but it disappeared completely through slowly friction massage and electrical treatment. Four months the patient was discharged. She has been well ever since (eleven months).

Howe

Petrén G. Pulmonary Embolism as Cause of Post-Operative Death (Sudden death observed in Lungembolie als postoperative Todesursache) *Berlin u. Hitz Chir.* 9 3, xxxix, 603 By Zentralbl f d ges Chir. Groughev.

After brief historical review the author draws conclusions from study of vast amount of mat-

terial some of which is his own. Death from pulmonary embolism occurs most frequently after laparotomy. One per cent of those operated upon for myoma, the same percentage of those who undergo laparotomy and about two to three per cent of those operated upon for hernia die of this condition. Embolism is as frequent in one sex as in the other. It does not occur before the fifteenth year. It is common between the thirtieth and forty-fifth years and most frequent in later years regardless of the general condition of the patient. Vascular changes constitute an important etiological factor but are by no means constant finding.

Petrén next discusses the pathological anatomy, the localization and the origin of embolism. Two-thirds of the fatalities occur between the fourth and fourteenth day after operation. The case of patient in whom a positive diagnosis of thrombosis has been made the danger is relatively less. Slight embolism may now and then precede the appearance of a thrombosis that is already present but has not yet been diagnosed. Miesler's symptoms was not typical in any of the author's cases, and only exceptionally does it precede the appearance of a thrombosis that is fatal. It is quite improbable that embolism is caused by infection. On the other hand, cardiac weakness is often noticed in this condition. Also changes in the blood itself are no doubt contributory. The prophylaxis consists largely in preventing the formation of thrombosis. This can be accomplished by early rising after operation, stimulation of the heart, respiratory exercises, and free evacuation of the bowels. When thrombosis has already developed, bedrest is imperative. This must be required also in cases in which thrombosis is merely suspected. In conclusion the author discusses Trendelenburg's operation, and reports observations made in some of his own cases. Jones

HEART AND VASCULAR SYSTEM

Jacob O. The Treatment of Tubercular Pericarditis by Pericardotomy Without Drainage (*Traitement de la péricardite tuberculeuse par la péricardotomie sans drainage*) *Bull et mem Soc. de chir d'Paris* 9 3 xxxix, 75 By Journal de Chirurgie.

Jacob recalls that twenty years ago Richard made a report to the Society in regard to a patient suffering from a tubercular pericarditis with great sero-haematic effusion. A pericardotomy without drainage was performed on this patient and the recovery was uneventful. Recently Jacob had the opportunity to perform again the same operation on a young soldier suffering from tubercular pericarditis. In this case also the patient was entirely cured.

There are, therefore, reported cases of tubercular pericarditis that have been treated and cured by pericardotomy without drainage. These two cases seem to be important and to speak in favor of the treatment and technique that Jacob recommends. J. Dewey

PHARYNX AND OESOPHAGUS

Guisen Congenital Stenosis of the Oesophagus
(Les sténoses congénitales de l'œsophage). *Ann. méd.*, 9 3, xxi, 502. By Journal de Chirurgie.

Congenital stenosis of the oesophagus is rare. Guisen observed only 4 cases of it in 400 oesophagoscopies. In all of these cases it occurred in the region of the cardia and all of the patients were males from 0 to 30 years old. Each case had been previously diagnosed as a gross spasm of the oesophagus, but the spasm in reality was only secondary to organic stenosis.

Oesophagoscopy, which is the only means by which an exact diagnosis can be arrived at, has shown the same thing in each case. In the region of the cardia there is a sort of valve more or less inflamed, modified by oesophageal peristalsis but preserving always its characteristic appearance and its easily recognizable sharp border. It is impossible to confound these congenital strictures with spasms of the oesophagus, in which the orifice is contracted and serrated or with the inflammatory stenosis, in which there is no valve-like appearance or with pressure stenosis, in which one of the walls of the oesophagus is pressed upon by tumor and the lumen acquires the shape of half moon or a cross.

The prognosis is grave but depends essentially on the degree of stenosis and the treatment.

The treatment used was as follows:

1. The oesophagitis, which in 3 stenoses has had effect, was reduced. This reduction was accomplished by proper diet and by the use of the oesophagus four times a day with an alkaline ter with the aid of Faucher tube.

The opening was dilated by oliveary dilators bougies. A fine bougie was left in for several hours to make passage.

3. It is nearly always necessary to actually cut the valve by oesophagotomy. In the author's last three cases he used circular electrolysis. In these instances the congenital stricture was accompanied by a slight eccentric stenosis, and the

electrolysis gave results that could not have been obtained by oesophagotomy.

When enough of the valve is destroyed and the oesophagitis has been reduced by alkaline lavage and proper diet, there is but slight chance that the stenosis will recur. In all of the cases reported by Guisen alimentation rapidly became normal.

J. DECAVE.

Grosselwitsch A Case of Oesophagitis Desiccans Following Poisoning by Acetic Acid (Ein Fall von Oesophagitis desiccans nach Essigsäurevergiftung). *Arch. f. med.*, 9 5, xii, 172.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

On the seventh day after taking acetic acid the patient ejected during an attack of vomiting the mucous, submucous, and part of the muscular layers of the oesophagus. The structures retained their tubular form. Twenty cases of oesophagitis desiccans have been described in the literature, but no case following poisoning by acetic acid. The author believes that the occurrence of this condition could be noted more frequently if the vomitus were more carefully examined.

JORR.

Reich, T. M. Types of Occlusion of the Oesophagus in Early Life. *Am. J. Dis. Children*, 1913, vi, 1. By Surg. Gynec. & Obst.

This article is a report of three cases of occlusion of the oesophagus and is well illustrated by X-ray pictures. The first case was that of boy 5 months old. The stricture was very tight. Gastrostomy as performed but the child died.

The second case was in girl 9 years old. Orange pulp and penny were found in the oesophagus. The oesophagus was very much dilated in the lower third at distance of 25 centimeters from the teeth there was stricture one-half centimeter in diameter. The stricture was dilated with the oesophagoscope and the patient recovered.

The third case was that of boy five and three-quarters years old and was really spasm of the oesophagus.

CARPSON (J. GARRIE).

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Myrphy J. B. Desmoid Tumor of Rectus Abdominis. *Surgical Clinics of John B. Myrphy*, 9 3, 2, No. 2. By Surg. Gynec. & Obst.

A woman of 31 entered the hospital on account of a tumor in the right rectus above the umbilicus. The tumor was first noted some 6 weeks previous as a hard and fairly movable lump. Six months before during the last 3 months of pregnancy she suffered more or less constant pain in the region of the tumor. The pain grew worse but disappeared after parturition. There had been no change in the size or consistency of the tumor in the past 6 weeks, and

it was never tender. The patient's personal history was negative. Her father, mother and brother had died of carcinoma.

At operation the mass was found to be the size of the index finger and to involve $\frac{1}{4}$ of the diameter of the rectus. It sprang from the posterior layer of the sheath and grew out into the muscle. On operation it was separated from the peritoneum without opening the latter. The recovery was uneventful. The stitches were removed on 4th day and the patient was discharged on the 22d day being advised to wear an abdominal support for some time to give the tissues every opportunity to unite solidly.

L. J. MURKELL.

Prepping, K. Rehn Treatment of Peritonitis (Die Rehn'sche Behandlung der Peritonitis) *Deutsche med. Wochenschr.* 9 3 xxxix, opé.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

For appendicitis peritonitis Prepping recommends Rehn's treatment, which consists in a median incision, irrigation, eversion, and drainage of the pouch of Douglas. The article is mainly a criticism of comparison made by Schedtmann of the method of Rehn with the method of Rotter. The latter consists of irrigation of the abdominal cavity and mopping without drainage. Statistics of the last two years show an improvement in Rehn's mortality percentage. It is evident from the article, however, that good results were obtained with both methods. The mortality in Rehn's cases during the last year was eighteen per cent, as against twenty four per cent for the year previous, that in Rotter's cases was 1.8 per cent.

Blecher Camphorated Oil in Peritonitis and Abscesses in the Pouch of Douglas (Camphorated Oil Peritonitis und Douglasabscess) *M. Stöcker, med. Wochenschr.* 9 3, 12, 10

By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

The author treated five cases of severe peritonitis, that occurred in fifty appendicitis, with one per cent of camphorated oil in amounts as large as 100 grams. The rapid improvement of the general condition and the ultimate recovery of all of the patients were attributed to the camphor treatment. In all of the cases an abscess was formed in the pouch of Douglas, which was also attributed to the camphor treatment. The oil checks the absorption, and reflex inflammatory process that begins later causes an increase in the exudation. If there are no adhesions the exudate drains down easily between the oiled loops of bowel. The heavy exudate, covered by a fine coat of oil, is retained in the dependent parts of which the pouch of Douglas is the lowest point. In two cases of acute paralysis of the stomach when the pelvis was elevated for a few days the formation of the abscess was delayed. Formerly the exudate from the pouch of Douglas was regarded as favorable rather than an unfavorable symptom. To prevent such an exudate glass or rubber drain, without gauze should be inserted into the sac.

WORMS.

Härtel, F. Tubercular Peritonitis (Die tuberkulöse Peritonitis) *Ergebn. d. Chir. Orthop.* 9 3, vi, 370
By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

The author reviewing the more recent literature, refers to 9 articles on the subject, which contain the latest ideas on the etiology frequency and prognosis of this condition. The greater part of his article is devoted to discussion as to whether the condition should be treated surgically or by the non-surgical or so-called conservative method.

The author's personal opinion is as follows. It seems to me that the patients on whom laparotomy is performed have decided immediate advantage

over those treated by other methods, but the longer they are kept under observation afterwards the plainer it becomes that they gradually lose this advantage, and the prognosis becomes about the same as that for the non-operated patients. In any case, after laparotomy, careful internal and restorative treatment should be persisted in for a long period, if possible in a sanatorium, a requirement that in most cases is difficult to meet. Härtel's article is more of a compilation than an expression of opinion.

LESLIE

Stocker S. The Employment of Tincture of Iodine in Dry Peritoneal Tuberculosis (Die Anwendung der Jodtinktur bei der trockenen Peritoneal-tuberculose) *Schweiz. Rundschau f. Med.* 9 3 xlii, 743
By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

Stocker after employing the hot air treatment in cases of peritoneal tuberculosis with unsatisfactory results, endeavored, following the suggestion of Hofmann, to obtain a more powerful hyperemia by applying tincture of iodine to the peritoneum.

Experiments with rabbits showed that when the bowels were painted with tincture of iodine no adhesions were to be found when the abdomen was opened later. Instead the surfaces were quite smooth. In six other rabbits the abdominal cavity was opened and a freshly prepared emulsion of tubercle bacilli was painted on the peritoneal surface of the bowel. In three of these cases the application of the emulsion was followed with a coat of tincture of iodine before the abdomen was closed. In the others no iodine was used. At the end of four weeks no tuberculous changes were found in the animals in which the application of iodine had followed the introduction of the tubercle bacilli, and there were no adhesions. The other three animals showed distinct tuberculous changes. To these last three animals tincture of iodine was then applied as it had been applied formerly in the other three cases. At the end of two weeks there were observed definite retrogression of the changes.

From these experiments the author concludes that tincture of iodine exerts a direct curative influence upon tuberculous processes that the danger of the formation of adhesions as the result of its use is much exaggerated and that the application of the tincture of iodine may be safely employed in the case of the human being. Stocker reports the case histories of two patients that he treated with good results. Contrary to Hoffman's observations, adhesions did not develop in these instances.

Rosenhoff A. G. Tubercular Peritonitis and Its Operative Treatment (Zur Frage der Bauchfell-tuberculose und ihrer operativen Behandlung). *Dissertation*, Moscow 9 3.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

The first part of this dissertation is devoted to a careful survey of the literature, the pathogenesis, the etiology and the symptomatology of tuber-

culosis of the peritoneum. The second part is discussion of the operative treatment and the indications for operative interference. The author has had twenty-four operative cases, nineteen women and five men. According to his statistics, tubercular peritonitis occurs most frequently in women.

The prognosis depends on the character of the tubercular process and the involvement of other organs. Operation must be performed early while the general condition is still good. Adhesions should not be broken up except in cases of intestinal obstruction. Eight of the author's patients that were operated upon died: two at the end of the second week, one at the end of a month, one after three months, three after six months, and two after one year. The cause of death in all of these cases was progressive tuberculosis. In nine instances the patient remained well for periods varying from two to five years. The prognosis is best in fibrous tuberculosis, and worst when caseous granulations are formed.

Dietary treatment according to the thor is next in importance to operative treatment. Puncture of the abdomen should be substituted for operation only in those cases in which serious disturbances in respiration or circulation contraindicate laparotomy. Mild attacks of the disease especially in children, should be treated conservatively. In acute cases presenting the picture of acute suppurative peritonitis operation is indicated. If no serious exudate is found tampon should be applied. Conservative treatment is best for dry peritoneal tuberculosis with adhesions. In conclusion the author gives ninety references from the literature.

IBRAH.

Friedman, L. Retrograde Incarceration—Hernia on W. *Surg. Gynec. & Obst.* 9: 3, xvii, 97.
By Surg. Gynec. & Obst.

In the type of strangulation known as retrograde incarceration, the incarcerated portion of herniated organ lies not in the hernial sac, but within the abdomen near the hernial constricting ring, like that part of the organ lying toward the periphery from the hernial orifice and within the sac is nearly normal or usually shows evidence of only moderate interference with its blood supply. The organs involved may be the appendix, fallopian tube, Meckel's diverticulum, omentum, and intestine (most often the small intestine). When the intestine is involved, two or sometimes three distinctly separate loops of gut are found in the hernial as well as the incarcerated loop, or so-called connecting loop, is within the abdomen near the hernial orifice.

Thrombosis of the mesenteric vessels and hemorrhagic infarcts in the mesentery are present in severe cases of connecting loop incarceration. Clear turbid, or bloody fluid is present in abdomen. The symptoms and diagnostic signs depend upon the length of the incarceration and are as follows:

1. Large-sized tumor in scrotal region, sometimes asymmetrical.
 2. Colicky pain in lower abdomen on the side of the hernia; pain on pressure on side of hernia, immediately above Poupart's ligament.
 3. Rigidity above Poupart's ligament on side of hernia.
 4. Local tympany.
 5. Presence of sausage-like mass in lower abdomen on side of hernia.
 6. Perceptible asymmetry of lower abdomen, the hernial side being higher.
 7. Dullness on percussion of flanks due to fluid and perceptible fluid wave.
 8. Blumberg's sign of peritoneal irritation.
 9. Greater abdominal than scrotal tenderness.
- After opening the sac

The presence of two or three distinctly separate loops of gut.

1. Escape of fluid, clear or bloody from the abdominal cavity.

From A New Case of Hernia Subtransversalis (Ein neuer Fall von Hernia labialis posterior; hernia subtransversalis) *Ges. d. Kreislaufs* 9: 3, 2, 261.
By Zentralf. d. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

The author reports a case of hernia subtransversalis, operated on by von Franquet, thus adding one case to the ten hitherto published. Like von Winkler he differentiates hernia subpubera, hernia labialis and hernia subtransversalis or labialis posterior. In the third, the hernial opening is between the rectum, coccyx, tuber ischii and m. transversus perinei. These perineal hernias are caused partly by the passing of the intestinal loops through congenital gaps in the pelvic floor. The gaps may be enlarged by lacerations during parturition and especially by forceps delivery. By the great strain upon the abdominal musculature intestinal loops or omentum may then be forced through. These hernias have the opening in the m. levator ani and the sac is formed by skin, fat tissue, superficial and pelvic fascia subserosa and peritoneum. Zuckerlandl and Ebner are of the opinion that perineal hernias occur only with congenital invagination of the peritoneum into the pouch of Douglas. The author considers this predisposition but not *causalis* *et* *ess.* T. congenital perineal hernias are described in the literature.

Von Franquet laid the hernial opening free, excised the sac, closed the opening with broad sutures and pulled the levator and over it to the os pubis without grasping the peritoneum. The opening was on the outer border of the pelvic part of the levator and at about the height of the middle of the perineum and close beneath the transversus perinei. The patient has had no relapse for two years and half. The findings before and after the operation are illustrated.

These hernias may be treated with trusses if there are no incarcerations and if the hernias can be replaced; otherwise operation is necessary. KROE.

Santucci A. A Rational Deep Suture for Bland Operation (La suture raionable d plan profond, dans le procédé de Bland) *Ch. chir.* 9 3, 221, 779. By Journal de Chirurgie.

The thor states very truly that grave consequences may result from tying the sutures that unite the crural arch with the internal oblique and transversalis muscles. Such tying may cause gangrene of the parts tied, as the result of the mechanical action, and of the neighboring parts, as the result of the *interruptio in the circulation*. The blood vessels that nourish the muscles run parallel to their fibers. Although it is true that the deeper the sutures are placed in the muscles the better from the standpoint of strength there is, nevertheless, great danger of an extensive necrosis.

On this first point there can be no question — the sutures must be placed in tissue that is firm and they must draw together without strangulating. To meet these requirements the author proposes substituting for the ordinary interrupted sutures series of sutures in the shape of U with base of which should include the crural arch and the arms of which should pass through the deep muscle and the psoas (the external oblique muscle and be tied superficially to the latter. His plan is not bad as *proven*. It is to be feared by that by his method the suppression of the deep muscles would be accomplished less easily than by the usual technique. As a new argument in favor of his method the author adds that, in case of infection, the sutures, though deep in their action, are easy to get.

PIERRE FROST

Gundermann, W. The Significance of the Omentum in Physiological and Pathological Conditions (Über die Bedeutung des Netzes in physiologischer und pathologischer Hinsicht) *Beitr. Klin. Chir.* 9 3, 1009, 587. By Zentralbl. f. d. ges. Chir. Graweg.

The omentum of the mammal is peculiarly highly lymphatic, membranous organ developed from the excessive growth of the mesogastrium. Its function is not definitely known. Its importance as reservoir of fat is doubtful. It is not an anchor for the transverse colon. It is, however, regulator for the gastric vessels during physiological hyperemia of the stomach. The author believes that under pathological conditions ligation of the omentum is the direct cause of post-operative hemorrhage of the stomach and bowel, especially in elderly people the valves of whose omental veins are defective. It seems that the degenerated liver tissue follows slight thrombosis of the portal veins is toxic to the gastric vessels which are overfilled after operation. Another function of the omentum is to serve as place where collateral circulation is established in carbuncles of the liver and uterine tumors. It has no movement of its own. The absence of the omentum decreases the resistance against peritoneal infection. Intraperitoneal free omentum transplantation is possible only when asepsis is perfect and when there

are no adhesions. Foreign substances (carmin, cerulein) introduced into the abdominal cavity are partly absorbed through the diaphragm and its lymphatics within fifteen minutes. The remainder is fixed by the omentum and transported by phagocytosis through the omental lymph stream within twenty-four hours. JOSEPH.

Schmieden V. Circumscribed Inflammatory Tumor Formation in the Pelvis, Originating from the Greater Omentum (Über circumscribte entzündliche Tumorbildung in der Bauchhöhle, ausgehend von Netz) *Berl. klin. Wochenschr.* 9 3, 1, 608. By Zentralbl. f. d. ges. Chir. Graweg.

Schmieden compares cases described by Küttner of idiopathic tumor-forming fat necrosis of the omentum with a case in which the development of tumor the size of a man's head extended over many months. The tumor could not be extirpated, and its growth was not influenced by exposure and incision. Finally

high grade intestinal obstruction resulted, so that an extensive operation was necessary (excision of the cecum and ascending colon surrounded by the tumor growth, and lateral anastomosis of the last loops of resected small intestine that enter the tumor with the transverse colon). Only when the irritation, produced locally by the passage of fecal material had been excluded did a retrogression of the tumor take place. At the last examination (eight months after the operation) the tumor could not be palpated.

Schmieden is unable to explain the cause of the formation of the morbid entity in this case. He believes that it must be attributed to thrombotic processes with nutritional disturbances in the omental fat emboli, hemorrhages, or circulatory disturbances produced by torsions of small pieces of omentum with incomplete constriction. Adipose people are predisposed. In the differential diagnosis, besides real tumors, actinomycosis must be taken into consideration. REINHARDT.

Frazier. Mesenteric Cysts, with Report of a Case of Sanguineous Cysts of the Mesentery of the Small Intestine. *J. Am. Med. Assn.* 9 3, 61, 97. By Surg. Gynec. & Obst.

A review of the literature on the subject of mesenteric cysts is attempted, together with complete report of a case observed by the author.

The origin of cysts of the mesentery is in many cases obscure. Many classifications have been offered by investigators but that which the author prefers is the one adopted by Moynihan. He classifies them according to their nature as (1) serous cysts arising either from a lymphatic dilatation from hemorrhages between the layers of the mesentery (2) chylous cysts, probably the most numerous, containing milky white fluid and due to a dilatation of some of the lacteals or chyliferous vessels (3) hydatid cysts, due to the larva echinococcus (4) dermoid cysts and (5) sanguineous cysts, the class to which the case reported belongs.

The cysts vary in size from that of a pea to the size of a man's head. They are usually oval in shape, their greater diameter being vertical. They are either uni- or multi-locular. The wall is composed of fibrous tissue and varies in thickness from a thin membrane to 1 cm. The character of the contents depends upon the origin of the cysts and also upon whether hemorrhages have taken place into the cyst or not.

The symptoms depend largely upon the size of the cyst and upon its relation to the neighboring viscera. Many of the smaller cysts are discovered only at autopsy and cause no inconvenience during life. The symptoms which mesenteric cysts most commonly produce are pain more or less severe, digestive disturbances, and symptoms of acute or chronic intestinal obstruction. Coincidentally there may be loss of weight and inanition and emaciation, and if operative measures are postponed too long peritonitis may develop from rupture of the cyst or the patient may die of inanition.

Permeation and palpation reveal the usual signs of abdominal tumor and fluctuation may sometimes be elicited.

The treatment, in all cases, should consist in operative measures. Theoretically there are four possible modes of procedure: (1) excision (2) enucleation, (3) resection of the involved intestinal segment followed by excision and (4) ligation and drainage. The first procedure has become obsolete. Whenever possible the radical procedure should be attempted, but when there are acute symptoms of intestinal obstruction it may sometimes be necessary to merely incise and drain, as many of these patients with acute obstruction will not tolerate any but the simplest and most rapid operation.

The case reported is that of a man who fell eleven years previous to the operation and received severe blow upon the abdomen. Subsequently he noticed a small tumor above the symphysis, which very gradually became larger. During the past year this growth had become more rapid. The operation showed a large mesenteric cyst near the ileo-caecal valve and subsequent examination showed it to be of the sanguinous variety. The cyst was removed and a large piece of bowel resected with it. An uneventful recovery ensued. J. H. BAKER.

Carrolier, P. Mesenteric and Retroperitoneal Blood Cysts (Sur les kystes hématoques mésoentériques et rétroperitoneaux). *Clin. chir.* 9, 3, 1901, p. 5. By Journal de Chirurgie.

This article, which is a critical study of the subject, includes an account of an unpublished case treated by Spengaro. A man 65 years old had smooth, elastic and fluctuating subumbilical tumorous mass in the abdomen about the size of seven months pregnancy. The mass was slightly mobile but was not influenced by respiration. On operating, Spengaro found a cyst surrounded by the intestines and covered by peritoneum, on the surface of which were numerous large blood vessels. He tried to

enucleate it but it adhered so closely to the vessels that some of the posterior wall had to be left in its contents were a serosanguinous fluid and red blood clots. A few days later a fistulous opening appeared at the lower angle of the wound from which escaped a seropurulent fluid. The subject gradually lost weight and died four months after the operation.

The autopsy showed that the fistula led to a cavity in front of the colon. In this cavity were found remnants of the cyst that had not been removed.

Histological examination showed that the wall of the cyst was made up of old connective tissue lymphoid tissue, and new very vascular connective tissue. Its thickness varied from 2 to 8 mm.

The author believes that this was an old lymphatic cyst which had become bloody as the result of a chronic inflammatory condition of its wall.

FRANK FREDER.

GASTRO-INTESTINAL TRACT

Carnot, P. Movements of the Stomach and Duodenum Studied by the Perfusion Method (Les mouvements de l'estomac et du duodénum étudiés par la méthode de la perfusion). *Crypt. Acad. Soc. de Biol.* 9, 3, 1901, p. 139.

By Journal de Chirurgie.

By means of the perfusion method described by Carnot and Gilmard, Carnot has been able to study the movements of the stomach and duodenum of the cat. According to this method, the detached base of viscera, distended by semiliquid substance, is immersed in Cloquet's oxygenated fluid or in de-fibrinated blood. Carnot studied the movements from the point at which they started to the point at which they passed the pylorus and went over into the duodenum.

On the fundus side the stomach contracts to form a veritable balloon confined below by the mediogastric groove. The part of the stomach that is intermediate between the fundus and the pyloric antrum is equally contracted. During activity the stomach takes on an hour-glass form which is modified by the peristaltic waves passing from the cardia to the pylorus. It is an exaggeration of this physiological phenomenon which gives rise to intermittent tension of the epigastrium when the pylorus is obstructed. The pyloric antrum is bounded on the side near the stomach by a groove of contraction similar to the mediogastric ridge, and peristaltic waves tend to expel its contents through the pylorus. In the duodenal bulb there are antiperistaltic movements tending to exert on the pyloric ring pressure equal to that of the pyloric antrum. The pylorus itself does not participate in these contractions directly. When it opens the duodenal bulb contracts and is then moved by peristaltic contractions which force the bolus of food down into the small intestine.

The perfusion method makes it possible to determine exactly by cinematography the movements of

the gastroduodenal apparatus, an apparatus that, on the basis of its partial contractions, has three distinct parts i. e., the fundus, the prepyloric antrum, and the duodenal bulb. This method confirms also the results obtained by radioscopy after the ingestion of bismuth. **PURSER CAVER**

White, F. W., and George, A. W. *The X Ray Method in Diagnosis of Gastric and Duodenal Ulcer*. *Bailey M. & S. J.* 9 3, dist. 37
By Surg., Gynec. & Obst.

According to the personal experience of the authors, X ray methods add materially to the conciseness of diagnosis in gastric and duodenal ulcer. Serial radiographs are used as basis for conclusions, the screen observations serving to give general survey of conditions and to show the facts about mobility and motility.

Radiological signs that may accompany ordinary gastric ulcer are: local spasm seen most often when the stomach is nearly empty; reflex pyloric spasm of variable duration; vagotonia; and, in half of the cases, resid. after six hours, due to spasm of the pylorus, irregular peristalsis or organic obstruction. In hour-glass contractions following ulcer the segmentation is clean cut and constant, and the stomach is drawn to the left by contraction along the lesser curvature, in adhesions to the liver and gall-bladder the stomach is drawn to the right and fixed there. Penetrating ulcers give characteristic protrusion of the bismuth, with or without gas bubbles at the top.

In duodenal ulcer the shadow of the first portion of the duodenum undergoes change in form and outline, and gastric motility is affected. Constant filling defects in the caput duodeni are recognized from series of plates made to show this structure to the best advantage in each individual case. Frequent use is made of the lateral ray projection, with the patient lying on the right side. Worm-eaten edges in the bismuth-duodenal shadow are common in duodenal ulcer but may be present also in adhesions and malignancy. The gastric motility in duodenal ulcer is variable and the actual time of emptying depends upon a number of factors the result of which in a given case may be anywhere from a marked hypermotility to a grave degree of stasis.

It is predicted that this line of work will become much more valuable in the future as the significance of the various X-ray findings becomes more firmly established. The authors handle the method at present in a considered very helpful if not indispensable.

HOLMES E. PORTER.

Wills, R. W. and Garman, R. D. *The X Ray in the Diagnosis of Gastric Ulcer and Its Sequels.* *Surg. Gynec. & Obst.* 9 3, xvii, 1.
By Surg., Gynec. & Obst.

According to the authors there is need of co-operation on the part of the internist and the roentgenologist in the utilization of the X-ray for purposes of gastro-intestinal diagnosis. A discus-

sion is then given of gastric anatomy and physiology as revealed by the X ray. The changes in the stomach as indicated by the X-ray that may indicate the presence of gastric ulcer are then discussed under four headings i. e., (1) changes in tonus (2) changes in position and form (3) changes in peristalsis and motility and (4) the relation that areas of pain, tenderness, and mass bear to X ray findings.

Changes in tonus give different X-ray findings according to the part of the stomach that is involved. Of changes in tonus resulting from ulcer of the pars pylorica nothing is known as yet. Direct abnormalities of tonus in the pars cardiaca and pars media are due to the ulcer. Spasm of the circular muscle fibers of the stomach at the level of the ulcer result in the formation of incisura on the greater curvature. The authors discuss the specificity of such incisura, their site and form, and the degree to which the stomach is divided by them. They give also criteria as to the genuineness of the X ray picture of incisura, and a discussion of pseudo-incisura and the diagnostic value of the real incisura.

Changes in the position and form of the stomach may result from ulcer. When they occur as the result of causes within the stomach, the stomach as a whole is in a left median position. This position may be due to an acquired atony. The dislocation of the pylorus to the left may be the result of contractions. Indications of change in form of the stomach due to gastric ulcer are the visualization of the ulcer crater as a projection on the periphery of the gastric shadow, the niche sign, and the formation of the hour-glass stomach. All of these are described and similar phenomena not indicating ulcer are discussed. When changes in position and form result from uncompensated obstruction of the pylorus by ulcer the stomach occupies a central position as a whole and is laterally enlarged, especially to the right of the median. The gastric residue is also in a central position. If the ulcer obstruction is compensated, the findings are not characteristic. In such cases the stomach is enlarged but normal in position and form.

Changes in peristalsis and motility may denote the presence of gastric ulcer. In the case of non-obstructive ulcer there are no characteristic changes in peristalsis though the peristalsis may be increased. Antiperistalsis is discussed in its relation to non-obstructing ulcer of the pars pylorica. Delayed motility is suggestive of ulcer. In cases of uncompensated ulcer of the pylorus, hyperperistalsis may at some time be the rule and there may be marked delay in the motility.

Under the heading relation of areas of pain, tenderness, and mass to X-ray findings are discussed the necessity for care in making deductions, the possibilities as to the relation of pressure-sensitive food to the stomach shadow, the causes of ulcer pain and tenderness, hypertonism, and reflex irritation of the parietal peritoneum. Hypertonism plus hyperexcitability, according to the authors, is the cause of unlocalized ulcer pain. As a diagnostic aid it is

useless because unlocalized. Pressure tenderness is also discussed. Gastric ulcer is not intrinsically painful. Pressure tenderness due to a reflex does or as a rule correspond to the ulcer site. Irritation of the peritoneal peritoneum as a result of ulcer peritonitis gives, as a rule, definite information as to the location of the ulcer and adds to the X-ray findings if it corresponds to the site indicated by the X-ray. A palpable mass of ulcer origin probably corresponds to the ulcer site because of associated perigastritis and partial peritoneum irritation.

The article is illustrated with numerous radiographs and is followed by a list of references: the literature of the subject.

Röpke, W. Chronic Gastric Ulcer in the X-Ray Picture of the Air-Inflated Stomach (Das chronische Magengeschwür im Röntgenbilde des luftgeblähten Magens). *Mitt. d. Chirurg. d. Med. Chir.* 9, 3, xvi, 302.
B. Zentralbl. f. d. ges. Chir. 1, Grenzgeb.

Röpke is enthusiastic in regard to the X-ray examination of the air-inflated stomach. While the inflation with carbon-dioxide gas is dangerous because it extends the stomach suddenly and without any regard to its size, the careful introduction of a sound and inflation with air is quite harmless and is always permissible provided that at least month has elapsed since the last free hemorrhage.

With the aid of excellent X-ray pictures the author first describes the appearance on the plate of the normal stomach when inflated with air. When completely inflated its outline is a curved smooth line when incompletely inflated, its outline shows indentations and the folds in the stomach wall are plainly visible. A stomach with a simple non-perforating ulcer when inflated has a very clear asterisk-like appearance in the picture and by the air-inflation method in most cases the details are more clearly brought out and the whole picture better defined than by the bismuth method. A sharp constriction in the stomach picture together with knotted or oblique band-like shadows, or a solid shadow on the lesser curvature either connected with the band-like shadows or at the end of the knotted shadows may be regarded as practical proof of the presence of gastric ulcer, particularly if at the same time the clinical history has indicated such condition. If the ulcer has penetrated into the surrounding tissue and organs, the X-ray picture is different and also in this case is so characteristic that a diagnosis can be made from it with certainty. In such pictures the author noted more or less clear areas within the outline of a large, solid shadow which encroached upon the lesser curvature. On operating these clear areas are found to be the defects in the stomach wall where there had been a penetration through the indurated ulcer area into the left lobe of the liver and into the pancreas.

In most cases the air-inflation method requires only one picture to bring out the details of size, form, and position of the stomach. With the bis-

moth-inflation method these points in the majority of cases can be determined only after a number of pictures have been taken with the patient in different positions. The air-inflation method, however, does not give any information in regard to the functional activity of the stomach, and for this the bismuth method will have to be used. In all of the cases that he reports the author was able by means of the air-inflation method to make a positive diagnosis both of simple indurated ulcers and those that had perforated into the surrounding tissues.

VON TUBERNA

Steinharter, A. Preliminary Note on the Experimental Production of Gastric Ulcers by the Intravenous Injection of Clumped Colon Bacilli. *Bacillus M & S J.* 9, 3, clxx, 81.

By Serg. Gyrec. & Obst.

An emulsion of colon bacilli in the presence of free hydrogen ions the author states, is agglutinated from one to four hours when incubated at body temperature. Gastric juice of high acidity possesses this agglutinating power. With these facts as basis, such an emulsion, when injected into the ear vein of a rabbit, has been followed by the formation of gastric or duodenal ulcer within 24 hours.

The method of preparing the emulsion was selective strains of colon bacilli in broth emulsion, are agglutinated with a weak solution of acetic acid and hydrochloric acid. One or two c.c. of this emulsion were injected into each of six rabbits, and in each an ulceration of the stomach or duodenum was afterwards found.

Many important questions, such as the method of action of the colon bacilli (whether it is mechanical or toxic) whether or not it has selective action on the stomach or whether other organisms will behave in the same way, remain to be treated in later communication promised by the author.

B. W. PARKER

Deaver, Posterior Gastrojejunostomy in Acute Perforative Ulcer of the Stomach and Duodenum. *J. Am. Med. Assn.* 913, lxv, 75.

By Serg. Gyrec. & Obst.

This paper emphasizes the great importance of early diagnosis of perforation of the stomach or duodenum and the imperative need of an immediate operation.

The diagnosis of an acute perforation is made mainly upon three things: first, the pain, second, the rigidity, and third, the history of previous indigestion or ulcer type. The pain is very intense and very sudden in appearance. There may have been premonitory pains of great severity but the pain of perforation is agonizing and unbearable. It is abdominal, not pelvic, and usually in the mid-epigastrium, epigastrium or hypochondrium, although occasionally radiating to the iliac fossa or back.

General rigidity of the abdominal muscles sets in at once after perforation. The rigidity is of the

extrem type often called board-like. It is most marked in the upper abdomen. With the rigidity there is extreme tenderness, which is first located over the site of the perforation, but with the rapid spread of peritonitis the areas of peritoneum become sensitive to pressure and so the tenderness often becomes confusing. In perforated duodenal or gastric ulcers particularly the infection is apt to spread along the paracolic grooves into the right iliac fossa. When the patient is first seen a few hours after the perforation the tenderness may be as marked over the region of the appendix as elsewhere and so lead to a diagnosis of perforative appendicitis.

A history of previous stomach or intestinal trouble can usually be obtained, although many times the patient is in such agony that the history must be obtained from friends or relatives. Occasionally however no history pointing to the presence of an ulcer can be elicited. A history of prior abdominal trouble is of assistance in making the correct diagnosis, but the absence of such history does not by any means exclude the diagnosis of perforation.

These are the important symptoms and signs of perforated ulcer and the other signs and symptoms usually described are either of minor importance as regards diagnosis or they appear only at a time when it is already too late to help the patient. The temperature, pulse, and respiration are sometimes changed slightly early but not to any diagnostic degree. Distention, accumulation of fluid in the abdomen, and the rebound of peristaltic movements are all signs which are of prognostic, but not of diagnostic, importance. No case should be allowed to wait until these signs appear as they foretell only too rarely the approaching end. Free gas in the abdominal cavity and the obliteration of liver dullness also show that the case has almost certainly passed beyond the help of the surgeon. Leucocytosis is usually present early but may be slight.

In treatment of perforation of gastric or duodenal ulcer the important thing is to operate and to operate early. The majority of cases operated upon during the first twelve or eighteen hours recover while the cases that have gone over twenty-four hours usually succumb. The line of treatment adopted by the author was as follows: (1) closure of the ulcer (2) plication of the duodenum to bilateral iliac fossa and fortification of this area by covering with the gastrophrenic and gastrocolic omentum (3) posterior no-loop gastrojejunostomy (4) to be drainage of the pelvis through prepuce stab.

The after-treatment consists in the sitting posture, continuous proctoclysis, and the prohibition of everything by mouth until peristalsis has been re-established as evidenced by auscultation and by the passage of flatus. The stomach tube is used freely for vomiting, regurgitation, or gastric distention. The administration of food is attempted very cautiously beginning with albumin water. Narcotics are used but cleansing enemas are given the third day after operation.

J. H. SCARLE.

Transverse Cancer of the Stomach. *British M J* 1913, 2, 3, 44. By Surg., Gynec. & Obst.

The author divides surgery of the stomach for cancer into three divisions.

The exploratory operation done to establish the diagnosis or to determine the operability of a palpable tumor. That this procedure is too infrequently used is obvious from the number of inoperable cases that come to surgeons. There is too often more reluctance on the part of the surgeon to do this operation and more on the part of the patient and his physician to have it done for suspected cancer than to prove a palpable cancer inoperable.

The first stage of pyloric obstruction is due not to the cancer *per se* but to the tumor plus the pericarcinomatous inflammation. Under these circumstances, conservative treatment yields results immediately good but ultimately disastrous. The microscope, chemistry and the X-ray are all valuable in diagnosis, but the personal history more than any other factor must be depended upon mainly to furnish evidence for or against exploratory laparotomy.

The palliative procedures occupy but small place in surgery of the stomach for cancer. The author believes that the excision of large tumor mass plus gastro-enterostomy is preferable to a gastro-enterostomy alone as palliative procedure.

The radical operation, which consists of partial gastrectomy and gastro-enterostomy. Wide margins of healthy tissue should be included together with complete excision of the lymphatic nodes draining the infected area.

R. W. F. EVANS.

Thomson and Graham. Fibromatosis of the Stomach and Its Relationship to Ulcer. *British M J* 1913, 2, 3, 47. By Surg. Gynec. & Obst.

Fibromatosis may be localized or diffuse, but it is the localized form which, from a clinical point of view is the more important to differentiate from cancer. This form nearly always commences in the vicinity of the pylorus and spreads from there towards the cardia, usually but not always, showing preference for the lesser curvature. The external appearance of the stomach shows marked changes: the normal area is flaccid and collapses readily whereas the affected portion is rigid and densely hard like gristle. The peritoneal surface is free from adhesions, is white, pearly and smooth. The diseased mucosa is usually firm and unyielding, closely adherent to the submucosa. It presents a bilobed surface which tapers abruptly at the pyloric ring but gradually merges into the normal towards the cardia. The submucosa is converted into a thick, solid, tough, white tissue, not so dense as a cheloid, but resembling the consistency of hard fibroma. The layer is made up of uniform fibrillated connective tissue with here and there collections of lymphocytes in the vicinity of the muscularis mucosae. The muscularis shows a marked hypertrophy of the circular fibers with characteristic segmentation, being divided into bundles by septa of white fibrous tissue continuous with the fibrous tissue of

the submucosa. The serous and subserous coats are little altered as a rule.

The most striking fact in the pathogenesis of fibromatosis is the apparently invariable association with ulcer or ulceration of the mucosa. As regards the relation of fibromatosis to cancer they suggest that an ulcer is the primary lesion, which is followed by fibromatosis and that, finally, cancer originates at the edge of the ulcer. Clinically the features are those of ulcer. Hemorrhage was a prominent feature in only one case.

Operative treatment. Where diagnosis can be made and cancer excluded, the authors advise resection of the affected part. A reasonable alternative in weak patients is gastro-enterostomy and at the same time removing several glands from the lesser curvature. If these show the presence of cancer the resection should be carried out after a suitable interval for recuperation. If the disease does not lend itself to radical treatment, then relief of symptoms may be had by gastro-enterostomy or if impracticable, by jejunostomy. R. W. McNasr.

Janeway. The Relation of Gastrostomy to Inoperable Carcinoma of the Oesophagus, with Description of New Method of Performing Gastrostomy. *J. Am. Med. Ass.*, 9, 3, 12, 93. By Surg. Gynec. & Obst.

A plea is made by the author for the earlier performance of gastrostomy on cases of inoperable carcinoma of the oesophagus before the patient has become emaciated from inanition. An early operation not only gives the patient a longer period of life but also relieves the cancer from the constant stretching and irritation caused by swallowing. The main objections usually raised to the performance of gastrostomy are the following: (1) the opening may leak; (2) the new fistula which leads to the stomach is permanently lined with granulation tissue and hence may cause some discharge; (3) there may be some irritation in the region of the skin; and (4) the annoyance of wearing a tube constantly.

The most serious of these objections is the possibility of leakage. This can well be prevented by following the procedure invented by Semm, which consists in invaginating a small cone of the stomach wall around a tube and then suturing the base of the cone to the parietal peritoneum. This forms a valve which prevents the outflow from the stomach.

The establishment of permanent fistula requires an epithelial lining for the fistulous tract. This is accomplished by a procedure described by the author. An incision is made parallel with the rectus fibres a short distance to the left of the median line and 3 or 4 cm. below the costal margin. The fibres of the rectus are not divided but are separated bluntly; the posterior sheath of the rectus cut through, and the peritoneal cavity opened. The anterior wall of the stomach is then pulled through the wound and an incision 3 to 4 cm. long made with perpendicular incision 1 cm. long at either end of the first incision. This forms a flap of stomach wall 3 cm. by 1 cm. and

by sewing the opposite edges of the opening together transversely to the direction in which the incision 3 cm. long was made, a hollow prolongation of stomach wall is formed, which is about 5 cm. long. This tubular projection may then be fastened to the abdominal incision and the outer end sutured to the opening in the skin. The rectus muscle acts like a sphincter and no leakage occurs under ordinary circumstances. J. H. Sarna.

Georg. The Positive Diagnosis of Duodenal Ulcer by Means of the Röntgen Ray. *Am. Quart. Rheumat.*, 9, 3, 14, 187. By Surg., Gynec. & Obst.

To obtain the most valuable evidence of the presence of duodenal ulcer the actual deformity might though it may be, must be demonstrated as constant on series of radiographic plates. To date, the frequent failures here and abroad result from too great a dependence upon such data as can be observed with fluoroscope.

The author assumes that the observation of Germain, that the first portion of the duodenum has very constant shape and structure unless it is diseased, is correct. Also that duodenal ulcer which is producing symptoms, involves the mucularis early becomes somewhat callous, and produces a real defect in the duodenal outline.

The caput duodeni is sometimes better filled in the standing position, sometimes in the prone position. Not infrequently, to make it quite visible plates must be made with the light directed laterally through the body from the left side, the patient lying standing. This is most often true in the steer-horn type of stomach or in special conditions in which the duodenum projects backward and is hidden behind the stomach. This method has added great deal to the accuracy of duodenal inferences as well as to the radiographical knowledge of the posterior wall of the stomach.

In conclusion the author is satisfied in having made minor incorrect inferences in only three of fifty-nine operated cases of duodenal ulcer, and major incorrect inferences is none. This showing he believes makes his results practically positive.

HOLMES E. POTTER.

Bunting and Jones. Intestinal Obstruction in the Rabbit. *J. Exp. Med.*, 213, xviii, 15. By Surg. Gynec. & Obst.

In former paper the writers stated their belief that the early death in high intestinal obstruction is due to the absorption of toxic duodenal secretion. If closed loops be made of lengths of ileum and jejunum in a fasting animal, no secretion occurs into these loops, while the duodenal loop becomes distended with a faintly gray-colored alkaline fluid.

The only difference between the upper and lower segment of the small intestine of the rabbit is the presence of Brunner's glands. It seems justifiable to conclude that the secretion found in the duodenal loop comes from these glands. J. F. CANNON.

De Quervain. Errors of Diagnosis in Appendicitis
(Des erreurs de diagnostic dans l'appendicite) *Rev.
med. Suisse romande* 9 3 1904 53
By Journal de Chirurgie.

One of the greatest criticisms made of the radical operation for appendicitis is that there may have been an error in diagnosis. However the radical operation is the only method of lessening the mortality of the disease and out of 73 cases operated for appendicitis there were but ninety four in which there was no lesion in the appendix.

Ten times the error was account of perforation of gastric or duodenal ulcers which should be readily recognized from the symptoms of perforation extreme initial pain and general muscular rigidity.

Twice the error was due to intestinal perforation in the ileocecal region twice to intussusception once to acute pancreatitis, and once to cut occlusion of the mesenteric vessels. It must be differentiated from cecum mobile typhlitis typhlectomy Lane kind. Five errors are due to a pneumococcus peritonitis in children from four to ten. Liver abscess, pyemic non-appendicular abscesses, and intestinal worms, have also caused errors in three cases, cholecystitis, and in one renal lithiasis were mistaken for pyelitis. There are nine cases in which pyelitis was confused with acute salpingitis nine cases with tuberculous and rupture of tubal pregnancies one, with torsion of the ovary and fourteen, with torsion or rupture of ovarian cysts.

In half of these cases the operation was as urgent as if it had been appendicitis. In fifth, the intervention, if not urgent, as justifiable and the best thing to do. In the rest the operation was unnecessary but rarely caused death. These facts are such that they urge the surgeon to operate without fear for pyelitis. P. UL. MATHIEU

Fölysi, J. Cases of Appendicitis, Cholelithiasis, and Pericholecystitis, Showing the Clinical Picture of Ulcer of the Stomach or Duodenum (Fälle von Appendicitis, Cholelithiasis und Pericholecystitis, welche das Symptomencomplex von Ulcus ventriculi und duodeni darbieten) *Beitrag zur Chir. u. Gyn.* 9 3 1904 377

By Zentralbl. f. d. ges. Chir. 1 Grenzgeb.

The author reports seven cases in which the history of typical pains, hemoptysis the clinical symptoms, and the X-ray picture indicated a stomach or duodenal ulcer but on operation there was found either chronic appendicitis, dilatation of the gall-bladder, cholelithiasis, pericholecystitis, gall-stones. These cases show that in cases in which pain in the stomach has persisted for long time in spite of internal treatment, operation should be undertaken, for even if there is no ulcer some condition will certainly be found which will explain the pain and which can be relieved surgically. That diseases of the appendix and gall bladder may lead to superficial ulceration from which hemoptysis may arise even though it may not be pronounced enough to be demonstrable on operation. 3 That it is

possible that some of the pain observed after an operation for ulcer is caused by disease of the appendix, gall-bladder or other abdominal organs. P. D. A.

Ducoux. Hydro-Appendicitosis (De l'hydro-appendicite) *Rev. d'op. et de chir. abdom.* 9 3 1904 143
By Journal de Chirurgie.

Hydro-appendicitosis is the name given by Jaboulay to the condition of the appendix which becomes suddenly and intermittently distended by the secretions of its mucosa. The symptoms are those of appendicitis.

Ducoux has collected eleven cases of this kind, two from Paris (reported by Petit and Walther) and nine from Lyons. Three of these were Jaboulay's.

In hydro-appendicitosis the appendix is turgid, swollen, and red and from 8 to 10 cm in length. It has been compared in appearance to penis, small intestine, and a banana, and when irregular to a mandarin or hydrocele. In some cases there may be one or two swellings resembling cysts. There are frequently adhesions fixing the appendix to the cecum or bending it toward the omentum, and the meso-appendix is frequently oedematous. The appendix is very thin and care must be taken when separating adhesions to avoid rupturing them. The liquid from the appendix in one of Jaboulay's cases caused tuberculous in a guinea pig. In one of Petit's cases drops of the liquid which fell into the wound produced a ulceration, apparently tuberculous, which was hard to cure. By microscopic examination Jaboulay found in one case giant cells in sections of the appendix. In several cases military tubercles were found in the cecum and in testis. Accordingly it seems logical to classify hydro-appendicitosis as an atrophic tuberculous of the appendix accompanied by dropsy.

Clinically there are three forms of hydro-appendicitosis, i.e., a latent form, with digestive trouble in which there is tumor, and a form characterized by repeated attacks of appendicitis. The last is the most common. The form characterized by tumor must be differentiated from cancer and ileocecal tuberculous.

The treatment advised is resection of the appendix. Special care should be taken to keep the fluid contents from coming in contact with the wound. The incision must be large. Jaboulay recommends a transverse incision beginning at the lower third of the incision of Jalegnier and extending toward the crural arch. The prognosis is grave, not so much on account of the lesions of the appendix as on account of tuberculous lesions in the lungs that frequently accompany this disease. GROSSER LAMBY

Sollier, R. Gastric Hyperacidity of Appendicular Origin (Sur la gastropathie hyperacide d'origine appendiculaire) *Rev. op.* 9 3 1904, No. 1
By Journal de Chirurgie.

Moynihan in 1901 was among the first to describe an appendicular dyspepsia. This disease occurs

most frequently between the seventh and fifteenth years. It has an insidious onset, rarely following an acute attack, and its symptoms are usually like those of gastric ulcer. There is gastric pain soon after meals, which is not radiating and which is frequently accompanied by acid vomiting and marked hyperchlorhydria. Tenderness to pressure is felt in the epigastric region but none elsewhere except when epigastric pain is caused by pressure at McBurney point. On operating a case of this kind Moynihan found the exterior of the stomach normal in appearance. He noted, however, intermittent spasmodic pyloric contractions. Soler in a similar case first performed gastro-enterotomy with no beneficial result. Appendectomy performed later however resulted in complete cure. The appendectomy followed typical attack of appendicitis with abscess formation and fecal concretions four months after the gastro-enterotomy was performed. Two months later the patient had gained a kiloe and had not had any further gastric distress.

ANCIUS

Cargile. Grape Seeds in a Pelvic Abscess. *South M J* 9 3, 330 By Surg. Gynec. & Obst.

The author reports the case of a 19-year-old boy who after having occasional attacks of pain was called to attention over a period of several years, developed a pelvic abscess. This was drained and 23 grape seeds escaped the pus. One seed was seen in the feces. An investigation in the library of the Surgeon General's office fails to reveal similar case. The nearest it is one in which small shot escaped through the appendix. Another interesting feature of this case was the absence of pain. The author states that he had outlined the mother to keep the child, while she could feel the contractions, both labors were badly painful. In no other respect was the mother abnormal.

C. H. D. VIL

Cheever D. Etiology and Significance of Pericolic Membranes. *J Am M Ass*, 9 3, 123, 125 By Surg. Gynec. & Obst.

The etiology of pericolic membranes has not been settled beyond dispute. The author however considers the origin of these membranes to be of dual nature. On the one hand he places the membranes resulting from congenital malformations, and on the other hand, those which are due to peritoneal irritation. In support of his theory that many of these membranes have congenital origin he calls attention to the fact that the very nature of the thin diaphragmatic web which constitutes the membrane man of the caecum could suggest that it is membrane of developmental rather than of inflammatory nature. In the study of these membranes in the fetus and in the new-born has shed overwhelming evidence in favor of the developmental theory in many of these cases. Membranes appearing in the fetus or the new-born could hardly come from peritoneal irritation or inflammation.

accept the unproved theory of fetal peritonitis. As to exactly what step of the development of the fetus is responsible for the formation of these membranes the author is not able to decide. He is inclined to believe that they are formed during the descent and rotation of the caecum from beneath the liver.

Of what pathological significance are pericolic membranes. Future investigation will probably tell us just how much intestinal disturbance can be attributed to these abnormalities. At present there is marked difference of opinion among surgeons as to what train of symptoms they may produce. The present accepted treatment of the condition seems to be the division of the membranes by the thermocautery.

J. H. SERRA

White B. Cancer of the Colon. *Brit M J* 19 1, 1, 57 By Surg. Gynec. & Obst.

Cancer of the colon is usually primary disease. Occasionally however the bowel becomes involved by extension of the disease from an adjacent viscus such as the stomach. Cancer of the colon is most common between the ages of 40 and 65. Two varieties of the disease require special description. One, the sclerosing type, is so frequent that it may be regarded as the typical form. Growing very slowly it leads to an annular constriction of the bowel which, if the patient lives long enough, will end in obstruction. The mesenteric glands are affected late. The second variety which occurs in minority of cases, is of the fungating type. There is extensive infiltration of the walls of the bowel and, in addition, fungating mass sprouts into the lumen of the bowel. There is no constriction of the bowel. It occurs more often in young people and is characterized by rapid growth, early dissemination, bloody stools and cachexia. There is no definite symptomatology and in the annular sclerotic type obstruction may be the first symptom. In obstruction from cancer of the colon distention precedes vomiting. Marked peristaltic movements of the colon are common. The

author reviews 26 private cases of colectomies for cancer. Fifteen of these came to him with acute or subacute obstruction and all were relieved by colectomy the growths being removed from to day later. Four patients died, two from pulmonary embolism, one from defective union of the bowels, and one from metastasis. Thirteen patients remain in apparent good health, eight of them after from 14 to 4 years. Five were operated on within the last 3 years. Colectomy should never be performed where intestinal obstruction is present. Patients beyond 70 years of age are poor risks. White advises colectomy or short circuiting for cases unsuitable for colectomy.

Under operative technique the author advises, first a thorough exploration of the abdominal cavity for evidence of metastasis before the operation is undertaken. Second, if the disease is too advanced, short-circuiting, or if this is not possible, colectomy. He takes up the method of untying the bowel but says there is no one way for all cases. There are

few operations in which good technique counts for so much, and every step in the procedure should be carried out deliberately and with infinite care. Three cases are reported as typical of the disease.

M. S. HARRISON

Aubertin, C. and Beaujard E. The Action of X Rays on Polyadenomas of the Intestine (Action des rayons X sur les polyadénomes de l'intestin) *Bull. et mem. Soc. med. d'Inde de Paris* 93, No. 1. By Journal de Chirurgie

Aubertin and Beaujard had an opportunity to compare two biopsies made eighteen months apart in the case of a 34 years old suffering with polyadenomatosis of the large intestine. The first specimen was obtained after a few treatments by radiotherapy the second after 5 treatments, when the symptoms were diminished and rectoscopy showed diminution in the size and number of the polyps. The authors made an histological study of the two specimens and believed that they could attribute to the action of the X rays decrease in the size of the glandular crypts, the disappearance of the cyst like formations, suppression of the cells filled with mucus, and restriction in the amount of stroma. These changes they interpreted as an histological amelioration of the condition.

M. URBAN CRAWFORD

Kleinböck, R. The X Ray Diagnosis of Colitis Ulcerosa (Zur Röntgen diagnosis der Colitis ulcerosa) *Fortschr. d. Geb. d. Röntgenstr.* 93, 22, 3. By Zentralbl. f. d. ges. Chir.

According to Sclerlin, colitis ulcerosa shows the following characteristics in the X ray picture. The diseased portion of the bowel is free from large quantities of bismuth and shows only few longitudinal black shadow lines. The border lines of the intestine are parallel, without marks of sacculi, and enclose between them very clear areas which has an increased gas content. This picture is constant. Sclerlin explains the condition as being hyperesthesia of the quickly emptying colon with residue remaining upon the ulcers of the intestinal wall in diverticuli or long-drawn out lines. Schwartz and Novacinsky report similar findings and give similar explanations. Kleinböck reports in detail three cases of colitis ulcerosa, two with tuberculosis and one with dysentery. His conclusions are as follows.

There are two distinct types. The picture of Type I shows narrow bowel almost without sacculi, and with short wavy shadow lines which are woven into veils or clouds. The bowel often shows spastic contraction in an inflated club shape with a dark margin. In this form the intestinal wall is still mobile. The picture of Type II is that of broad cylinder of an even thickness, without sacculi and with narrowly dentated outlines, a form characterized by rigid infiltration of the walls and the formation of ulcers. The picture of the empty bowel is similar to that of normal digestion. With

the ulcerative process, insufficiency of the Baile's valve, adhesions, kinkings, and stenosis are frequent.

HORMAN

Beach, W. M. A New Operation for Hemorrhoids. *Pittsburgh M. J.* 93, 1. By Surg. Gynec. & Obst.

The author reviews the anatomy of the rectum and anal canal. He protests against the general use of the word orifice as applied to the anus and insists that the words anal canal should be substituted. The blood supply of the anal canal is derived largely from the superior hemorrhoidal artery, a continuation of the inferior mesenteric artery. The superior hemorrhoidal descends from the rectum to the superior part of the anal canal where it terminates in plexus of veins. These veins are, very thin walled and are covered only by mucosa. Therefore they are very easily distended by any obstruction to the outflow of the blood.

The author objects to the operations commonly used in the radical treatment of hemorrhoids. His objections are, that the operation is either too destructive of the mucous membrane and the nerve endings enclosed therein, or it is not radical enough to effect permanent cure. He criticises especially the Whitehead operation because it removes such a large area of epithelium that contains sensitive nerve endings having special function to perform in the control of the sphincter ani. He criticises the ligature method because of the sloughing which occurs beyond the constriction and the attending pain. He claims also that at times by the ligature method only the overlying mucosa and not the whole pile is included and as a result the condition tends to recur. He censures the use of the clamp and cautery because of the pain and suffering which he claims follow in many cases and may extend over many weeks.

The operation that Beach recommends is as follows. The patient is anesthetized either generally or locally and placed in the lithotomy position. The tumours of each quadrant are then seized with the forceps and by traction are brought into view. A single-pronged tenaculum is passed through the diseased tumours and the entire mass is removed with curved scissors. Any distended veins that have been left are then removed with curette. The incised mucosal edges will usually approximate. Ragged edges are trimmed with T. Obviate post-operative hemorrhage, gauze-covered tube one inch in diameter is inserted through the operative speculum. This acts not only as a hemostatic but also as a splint.

J. H. SARRIS.

Smith, A. Description of the Enteroptotic Womb. *Surg. Gynec. & Obst.*, 93, April, 71. By Surg., Gynec. & Obst.

Visceral prolapse in woman is always attended by other closely associated structural abnormalities. On this basis, these women may be divided into two groups. In the one are placed those who in early life were well nourished, more or less sturdy of form

most frequently between the seventh and fifteenth years. It has a insidious onset, rarely following cuts attack, and its symptoms are usually like those of gastric ulcer. There is gastric pain soon after meals, which is not radiating, and which is frequently accompanied by bad vomiting and marked hyperchlorhydria. Tenderness & pressure is felt in the epigastric region but none elsewhere except when epigastric pain is caused by pressure at McBurney point. On operating on case 1 this kind of myoma found the exterior of the stomach normal in appearance. He noted, however, intermittent spasmodic pyloric contractions. Solieri in a similar case first performed a gastro-enterostomy with no beneficial result. Appendectomy performed later however resulted in a complete cure. The appendectomy followed typical attack of ppendicitis with feces formation and fecal concretions four months after the gastro-enterostomy was performed. Two months later the patient had gained kilos and had not had any further gastric distress.

AMATELLA

Cargile. Grape Seeds in Pelvic Abscess. South Af J 9 3 14, 33a. By Surg., Gynec. & Obst.

The author reports the case of a year old boy who after having occasional attacks of what was called indigestion over period of several years, developed pelvic abscess. This as drained and 3 grape seeds escaped in the pus. One seed was seen in the feces. An investigation in the library of the Surgeon-General office fails to reveal similar case. The nearest to it is one in which small abscess escaped through the appendix. Another interesting feature of this case was the absence of pain. The author states that he had confined the mother twice and that, while she could feel the contractions, both labors were absolutely painless. In no other respect was the mother abnormal.

C H D vs

Cheever D. Etiology and Significance of Pericolic Membranes. J Am Med Ass, 9 3, 14, 244. By Surg. Gynec. & Obst.

The etiology of pericolic membranes has not been settled beyond dispute. The author however considers the origin of these membranes to be of dual nature. On the one hand he places the membranes arising from congenital malformations, and on the other hand, those which are due to peritoneal irritation. In support of his theory that many of these membranes have congenital origin he calls attention to the fact that the very nature of the thin diaphragmatic wall which constitutes the membrane in many of the cases would suggest that it is membrane of developmental rather than of inflammatory nature. Also the study of these membranes in the fetus and in the new-born has added overwhelming evidence in favor of the developmental theory in many of these cases. Membranes appearing in the fetus or the new-born could hardly come from peritoneal irritation or inflammation unless we

accept the unproved theory of foetal peritonitis. As to exactly what step of the development of the foramen is responsible for the formation of these membranes the author is not able to state. He is inclined to believe that they are formed during the descent and rotation of the cecum from beneath the liver.

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J H. SHERES

White, R. Cancer of the Colon. Brit Med J 1913, 4, 57. By Surg. Gynec. & Obst.

Cancer of the colon is usually primary disease. Occasionally however the bowel becomes involved by extension of the disease from an adjacent viscus such as the stomach. Cancer of the colon is most common between the ages of 4 and 65. The varieties of the disease require a special description. One, the sclerosing type, is so frequent that it may be regarded as the typical form. Growing very slowly, it leads to an annular constriction of the bowel which, if the patient lives long enough, will end in obstruction. The mesenteric glands are affected late. The second variety which occurs in minority of cases, is the fungating type. There is extensive infiltration of the walls of the bowel and, in addition, fungating mass sprouts into the lumen of the bowel.

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author reviews 36 private cases of colectomies for cancer. Fifteen of these came to him with acute or subacute obstruction and all were relieved by colectomy the growth being removed from the days later. Four patients died, two from pulmonary embolism, one from defective union of the bowels, and one from metastasis. Thirteen patients remain in apparent good health, eight of them after from 14 to 4 years. Five were operated on within the last 3 years. Colectomy should ever be performed where intestinal obstruction is present. Patients beyond 7 years of age are poor risks. White advises colectomy or short circuiting for cases unsuitable for colectomy.

Under operative technique the author advises, first, thorough exploration of the abdominal cavity for evidence of metastasis before the operation is undertaken. Second, if the disease is too advanced, short-circuiting, or if this is not possible, colectomy. He takes up the method of suturing the bowel but says there is no one way for all cases. There are

Joint tuberculosis. Too much reliance must not be placed on experimental work. Infection of a tubercle bacillus culture into joint cavity causes a reversed pathological course. Tuberculosis attacks the epiphysis and not the shaft because of its marked affinity for lymphoid tissue.

The tuberculous process is limited by the cartilage, the periosteum, and the shaft. If it goes beyond the cartilage it does so by extending around it or penetrating through it after having caused degeneration of that tissue by cutting off its nutrition. When the synovium is infected the original tubercle is found in its lymphoid tissue. Apparent enlargement of the joint is due to atrophy of the muscle.

The symptoms include pain, stiffness, swelling, limitation of motion, change in attitude, deformity, disturbance of function, local rise in temperature, bone involvement, muscular spasm, and muscular atrophy. Purely synovial cases are distinctly mild and may elude diagnosis. Abscesses are very frequently formed.

Complications. Phthisis, adenitis, meningitis in children and amyloid degeneration after prolonged suppuration.

The prognosis for life is good for children. Functional results vary with age. Painless motion in an adult tuberculous joint is an indelible dream. Children may recover with good function.

Diagnosis. Tuberculosis may be differentiated from other diseases in Type I by its slow, steady course and unarticular nature from those of Type II by the presence of active inflammation and absence of exostoses.

Local treatment. (1) deprive the joint of function. (2) avoid secondary infection. In general, conservative treatment in children, radical treatment in the adult. Conservative treatment should prevent deformity and deprive the joint of function. It is essential that treatment by apparatus be continued without interruption.

Tubercular treatment is not of value. Bacteriolytic treatment is worthless. Injection of substances into the joint may be harmful.

Radical treatment consists in the destruction of function. Finger and toe joints should be treated by amputation. In the spine where resection is impracticable, Albee bone splint should be applied.

Chronic gonorrheal arthritis. The absence of bony outgrowths (usually) the appearance of the Röntgen plate of the joint itself and the history place this disease in Type I. Treatment. Set the genito-urinary tract in order, mobilize the joint, under anæsthetic if necessary.

Joint syphilis. There are two forms of joint syphilis, one of which corresponds to the synovial form of tuberculosis and the other to the osseous type. Another form more frequent, is proliferative inflammation of the marrow and periosteum of the bone end. Mobilization is useless. Mercury has been our sheet anchor. Some cases yield to one or two doses of salvarsan. After course of mercury.

The etiology of other diseases of Type I is uncertain. It would be wise to study the bone marrow the active tissue, in seeking the cause of affection of the passive tissue. W. A. CLARK.

Bankart, A. S. B. The Pathology and Treatment of Hallux Valgus. *Med Press & Circ.*, 93 xvi, 13. By Surg., Gynec. & Obst.

The part played by shoes in the etiology of hallux valgus has been exaggerated. In the majority of cases the deformity is due to flat foot and results from tension on the tendons of the great toe caused by the elongation of the skeleton of the foot. The deviation is outward because of the predominance of muscle attachments on the outer side of the toe.

Treatment. The entire head of the metatarsal bone should not be resected, as such resection destroys the anterior support of the arch. Instead, the tendons of the extensor and flexor longus hallucis should be divided, the prominent part of the bone chiseled away the toe forcibly abducted, and the capsule sewed back to the head of the metatarsal bone. Treatment for the accompanying flat-foot must also be carried out. W. A. CLARK.

Schwartz, A. The Etiology of the Burntides (Zur Ätiologie der Brandiden) *Wien med Wochenschr.* 93 Juli 854.

By Zentralbl. f. d. ges. Chir. f. Grenzgeb. Inflammation of the burn is different from joint is not due to traumatism alone. Infections and nutritional disturbances due to diseases of metabolism also are primary or secondary causes of the pathological changes. After an attack of angina or tonsillitis the burn of the different joints are frequently painful to pressure. This condition gradually improves with the improvement in the primary disease. Micro-organisms may enter a burn with the blood stream and remain there latent even after the acute infection has ceased, and these, after a second infection or trauma may lead to atrophy or shivering of the burn. A predisposition to burnism or gout, gonorrhea, etc., may also be the cause of the disease. Accurate knowledge of the etiological factors as well as of the anatomical location of the individual burn is important for if the affection is recognized early errors of treatment will be avoided and stiffening of the joints prevented. Local applications of mud, or better hot air treatment, energetic massage and early mechanotherapy usually render good results.

DE ARVA.

Fenwick, W. S. The Conservative Treatment of Tuberculosis of Joints. *Brit. M. J.* 93, 800. By Surg., Gynec. & Obst.

Fenwick admits the advisability of radical operation in certain adults. Considering the dangers of the radical operative procedure in children he believes that there is the danger of general tuberculosis and tuberculous meningitis. He quotes

the statistics of H. J. Stiles emphasize this, and say that his radical operations may be usually performed in the more severe cases, he still feels that even better results could be obtained by the conservative treatment of children in the same class of cases. The radical operation is objected to because it causes considerable shortening. Under treatment Tenckland uses the use of cod-liver oil and phosphorus and proper feeding, which is very essential in the last cases at Queen Hospital, for the children are drawn from the crowded districts of London. The ordinary methods are employed to reduce deformity and fixation is established by splints. Periodic examination by X-ray is insisted upon. Bier hyperemia is employed routinely. Lodoform injections are used on the more trivial cases. Abscesses are tapped and infected lodoform emulsion is used resulting in this line of treatment is operated on and antiseptics are used as the bone. The author states that he has never amputated children. He is strong advocate of the use of ether, he does not drive it as preparatory to operating on any case of tuberculosis. He administers it either hypodermically or by mouth.

J. S. Henderson.

Enrich, H. and Marbach, M. Congress of the French Society and its Treatment (Über Ursachen der Extremitäten und ihre Behandlung). New York, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 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In simple separation without extensive detachment of the soft parts, fixation in the extended or slightly flexed position is sufficient. In the majority of cases an anæsthetic is necessary. A *X-ray* examination must be made to insure the maintenance of the correct position. Fixation in acute flexion sometimes helps when other methods fail. When the reduction can not be accomplished by these methods, immediate operation should be done. With evidence of injury to the vessels acute flexion should not be employed, on account of the obstruction to the circulation.

Compound fractures are treated by thoroughly cleansing the wound, the displacement having been reduced, fixation of the fragment must be secured. Excision of the joint is probably never necessary when easy reduction is attained.

Conclusions. Owing to danger of subsequent interference with growth, absolute reduction and fixation at the earliest moment is of great importance.

1. Early and repeated *X-rays* are necessary to control the completeness and permanency of the reduction.

2. In simple cases where immobilization in flexion fails to hold the fragment in correct position from the start, open reduction with the use of small nail or bone-plate is indicated.

3. In compound separation the same means of positive fixation is to be recommended.

4. The foreign body should be removed soon after union has begun in order to avoid interference with growth. This should be done not later than the third week.

FREDERICK G. DYER.

Jones, R., and Smith, S. A. Rupture of the Crucial Ligaments of the Knee and Fracture of the Spine of the Tibia. *Brit. J. Surg.* 9, 3, 1, 70. By Surg. Gynec. & Obst.

The *X-ray* has shown that fracture of the spine of the tibia, often associated with rupture of one or the other of the crucial ligaments, is much more common than is generally supposed.

An investigation by the authors has shown that rupture of one or of both of the crucial ligaments occurs frequently in dislocation of the knee joint.

The authors quote Hogarth's principle paper published in 1907 as the first article to treat of rupture of the crucial ligaments with violation of the spine of the tibia. They then describe the anatomy of the articular surface of the knee joint in detail, emphasizing the following facts:

(1) That the anterior crucial ligament is tense when the knee is fully extended and prevents the tibia from being displaced towards the femur.

(2) That the posterior crucial ligament is tense in complete flexion and prevents the tibia from being displaced backwards on the femur.

(3) That both ligaments check inward rotation of the tibia.

Hence if after injury to the knee, the tibia can be displaced backwards and forwards or rotated

inwards in the extended position injury of one or both crucial ligaments may be diagnosed. The most constant sign of fracture of the spine of the tibia is an obstruction to full extension. FREDERICK G. DYER.

SURGERY OF THE BONES, JOINTS, ETC.

Gask, G. E.: Autoplastic Graft of Fibula Int. If nerves after Resection for Chondrosarcoma, with Observations on Bone-grafting. *Brit. J. Surg.* 9, 13, 4, 49. By Surg. Gynec. & Obst.

The author first gives briefly a review of the various methods of grafting bone and other tissues that have been in use during the last twenty five years. He then reports a case of tumor of the humerus, which necessitated the removal of a portion of the shaft three inches long and the implantation of a portion of the fibula from the same patient. The union was good and resulted in complete use of the arm. Measurements showed that the humerus after the operation was three-eighths of an inch shorter and the circumference of the limb one-quarter of an inch less than normal. The loss in the fibula was not perceptible. The patient can walk as well as ever and is not weak on the operated side.

Technique. The portion of the humerus affected was removed, together with its periosteum, and the graft of the fibula was inserted with its periosteum intact. Nerves were drilled into the graft. All muscular and tendinous attachments of the fibula were carefully dissected off. The bones were not secured in position by any foreign body such as a screw, peg, or plate.

Conclusions. (1) An autograft of bone under favorable conditions (youth of the individual is a favorable factor) will live and grow. It will certainly grow in thickness, though whether it will grow in length and at the same pace as the corresponding bone of the opposite arm, remains to be proved.

(2) The periosteum of the graft is of service to the bone, both as limiting membrane and as an active factor in the deposition of new bone.

(3) There is evidence to show that bone will grow without its periosteum and that even marrow alone will survive and deposit new bone. However until we know more, it is better when possible to employ bone that is covered with its periosteum.

(4) Transplantation of the bone from an animal to man, and the use of bone from dead bodies, is merely in the experimental stage. FREDERICK G. DYER.

Klopper L. Free Transplantation of Fat into Bone Structures (After free Fat-transplantation in Knoch-entzündung). *Arch. u. Klin. Chir.* 9, 3, Juni 1909. By Zentralbl. f. d. ges. Chir. u. L. Grenzgeb.

The clinical experience in seven cases was very encouraging, and shows that filling the cavity with living tissue is superior to any method in use at present. The procedure is worthy of recommendation for aseptic as well as infected cases. REPLY.

König. Successful Plastic Operation on the Elbow-Joint by Means of Implantation of an Ivory Prostheses (*Erfolgreiche Gelenkplastik am Ellenbogen durch Implantation einer Elfenbeinprothese*). *München. med. W. Anz.* 93, 12, 10.
By Zentralbl. f. d. ges. Chir. 1 Grossegerb.

On the strength of successfully treated case of ivory transplantation at the elbow joint König calls attention to the possibility of utilizing ivory in plastic operations on bones, and particularly emphasizes the simplicity of the procedure.

The patient a healthy girl, had spindle-cell sarcoma of the olecranon condyle of the humerus. At the operation almost the entire distal portion of the humerus was removed, only the capitulum and humeri remained. Into the resulting defect an excruciatingly built previously prepared as inserted and held by two ivory pegs. A few weeks later plastic operation on the muscles became necessary. The result is good. The patient has had no recurrence in over year, her joint movable over more than one half of right arm, and firm every respect. Extension is possible to 135 degrees. Flexion to 85 degrees and rotation is complete. Von Fahren.

Von Saar G. F. and Schwaninger R. The Ulnar Longitudinal Incision for Operation in the Region of the Volar Surface of the Wrist Joint and of the Hollow of the Elbow (*Der ulnare Längsschnitt eine Schnittführung für Operationen im Bereich der Volarfläche des Handgelenks und der Ellbogen*). *Zentralbl. f. Chir.* 91, 24, 993. By Zentralbl. f. d. ges. Chir. 1 Grossegerb.

In order to avoid unnecessary secondary injuries and to permit a good exposure of the operative field the authors have designed a new incision in the region of the volar surface of the wrist joint, which they illustrate with drawings. The incision is made in the middle of the space between the flexor carpi ulnaris and the palmaris longus in such a direction that it will strike the narrowest point of the anterior annular ligament. Haa.

Osgood. The End Results of Excision of the Knee for Tuberculosis with and without the Use of Bone Plates. *Boston M. & S. J.* 93, 111, 1.
By Surg. Gyner & Ober.

The author first discusses the various methods of excision of the knee joint with their modifications and outlines the method which he advocates as follows: A 10- to 14-day preparation is given to the knee joint which has preferably been previously fixed in plaster for at least one month. The field is prepared by benzine-iodine skin preparation and an Esmarch bandage is applied. A T-shaped incision is made extending from the lower femoral condyle downward across the patellar tendon as high above the tubercle and upward to above the outer femoral condyle. Before the skin is cut through, three or four scratches are made over the lower half of the incision and one on either side to facilitate accurate skin reposition. The incision is then carried down to the bone dividing the patellar

tendon. The edges of the wound are swabbed with tincture of iodine. The proximal end of the patellar tendon is secured with double hooks, and the flap containing skin, fat, patella, diseased tissue and upper end of the tibia is quickly dissected back the knee being gently flexed. Much of the tuberculous tissue is removed as the lower end of the femur and upper end of the tibia are isolated. A quick dissection of the upper end of the tibia is made.

Estimating the desired angle of fixation, the lower end of the femur is secured with a flat as just above the diseased tissue. The upper end of the tibia is next secured and quick dissection of the tissue between the posterior capsule is made. The patella is removed, or its under surface is secured off.

It has been the custom for the last four years, in the absence of bones or of mixed infection, to fix the ends of the bone by means of malleable iron plates, or aluminum wire clamps one on either side and over the middle. The patellar tendon is then sutured, the skin flap is replaced, and the leg put up in plaster of Paris.

Fourteen simple excisions had a second operation for re-excision. These cases are secondarily infected. Four had sinuses before the operation, and nine after. Perforated several months after the operation in three cases. Eventual union occurred in 14. The time of union was 1 month or less in 11, three months or more in seven, there is no record of eventual union in five.

Comparing these cases with those in which plates or lamps are used, none came to operation for re-excision. One amputation as done outside the hospital. Two had sinuses before operation, and five after. Pain persisted several months only in the reported case. Eventual union occurred in thirteen. The time of eventual firm union was one month or less in 11 cases, 1 month or less in four, three months or more in three.

Conclusion. Comparative statistics of this small series seem to show that the holding of the bony approximated bone ends firmly together has decided advantages. Post-operative pain is less early union is secured, the only disadvantage is the occasional removal of the plate. A table of statistics is appended. F. Emery G. Dru.

Schepelmann, E. Free Transplantation of Pericardium (Eine Pericardtransplantation). *Arch. f. Klin. Chir.* 19, 3, 5, 499.
By Zentralbl. f. d. ges. Chir. 1 Grossegerb.

In a series of earlier experiments the author attempted by transplantation to repair defects of the trachea with pericardium found around pieces of glass tubing. Recently he has investigated the conditions which determine whether transplanted pericardium will form new bone. He gives the other investigators that under favorable conditions it is possible in all instances to obtain pericardial bone formation in transplanted pericardium. Success is assured more often, however, when the thorax in which the transplant is placed are very vascular and

parenchymatous. The results are so uncertain, however, that it is doubtful whether the procedure will be of much practical value. The conditions which determine success to a considerable extent are: autoplasty in preference to homoplasty; the age of the patient; the vascularity of the area; to which the periosteum has been transplanted; the integrity of the cells; the permanent union between the underlying layers and the periosteal membrane; and the immediate transplantation of the periosteum, after its removal, into its new bed. The influence of functional stimulus on the formation of bone in periosteal transplants has yet to be determined by further investigations. HALLER.

Petrashewski. A Case of Free Transplantation of Half a Joint (Ein Fall von freier Transplantation eines halben Gelenks). *Verhandl. d. 10. Ver. d. Ärzte d. Stadt Obuchow-Krasnok.* S. Petersburg 93, 4th 4.

By Zentralbl. f. d. ges. Chir. Grosseh.

The author removed the entire fifth metacarpal bone for sarcoma. He replaced the bone with the fifth metatarsal bone, which was sutured to its base. The joint end (distal end) was placed into the first phalangeal joint, and the other end was placed against the os hamatum. Primary union resulted. The function of the newly formed joint is identical with the sound joint on the other hand. The defect of the foot caused no disturbance.

O. von SCHULZING.

ORTHOPEDICS IN GENERAL

Young, J. E. Practical Progress in Orthopedic Surgery. *Del. St. M. J.* 93, 14. By Surg. Gynec. & Obst.

The scope of orthopedic surgery includes deformities dependent upon (1) lesions of the bone (2) lesions of the cerebro-spinal system (3) impaired nutrition (4) disturbances of development and (5) traumatism.

Arthritis deformans. Formerly called rheumatism. From 50 to 80 per cent of the cases are females. The etiology includes trauma, neurotic conditions, pathogenic bacteria, and toxemias. Still disease in children is similar but includes more constitutional symptoms.

Serum therapy. The most suitable cases of bacteria treatment are those showing symptoms of toxic absorption but no true septicemia.

Psoas incision. Early operation is advised for raised infection. The incision is made two and one-half inches from the spinous process, midway between the last rib and the crest of the ilium.

Lateral curvature. The most recent and prominent advances in the treatment of lateral curvature is the Abbott method of correction which consists in placing the patient in a specially constructed frame, and by means of canvas bands, twisting him into corrected position. A heavy plaster cast is then

applied and padding is used to force the body to the concave side. The treatment covers a period of from 4 to 6 weeks.

Infantile spinal palsy. The greatest advance is in tendon transplantation. Most orthopedic surgeons prefer peroneal implantation.

Sacro-iliac displacement. Goldthwaite's work has revealed frequent ankylosis between the last lumbar vertebra and the sacro-iliac articulation. The displacement may be of the traumatic or of the static variety.

The static variety is composed largely of the neurotic and the uterine types. The symptomatology includes pain, limitation of motion, abnormal mobility and changes in attitude.

Cerebral palsy. Tendon lengthening and transplantation are of great value, but mental training is also of much importance.

Torticollis. The best age for operation is between six and eleven. The sterno-cleido-mastoid should be divided at the clavicle and the head fixed in an over-corrected position for three weeks.

W. A. CLARK.

Washburne, C. L. A Study of Congenital Dislocation of the Hip with Report of 81 Cases. *Physicians & Surg.* 93, 2nd, 306.

By Surg. Gynec. & Obst.

Congenital dislocation of the hip was recognized by Hippocrates. Pravaz in 1838 was able to reduce the deformity but could not fixate to prevent recurrence. Lorenz in 1902 popularized the bloodless method. Etiological theories: (1) anomaly in development (2) intra-uterine pressure. The latter is the more attractive theory. The position of flexion and adduction assumed by the fetal legs is the position in which the minimum areas of joint surfaces are in contact and which, if prolonged and under pressure, is most favorable to permanent displacement of the head out of the acetabulum. The greater frequency of congenital dislocation of the hip in females is probably due to the fact that in the wider pelvis the acetabulum is in a more posterior-lateral position. The author reports six cases and concludes from his experience that as a rule, adductor tenotomy is bad practice, that the wedge fulcrum is a dangerous instrument, that the most favorable time for reduction is between the ages of three and ten, and that in patients over ten years open operation is advisable.

W. A. CLARK.

Carr, W. P. An Operation for Flat Foot. *Am. J. Surg.* 93, 2nd, 270. By Surg. Gynec. & Obst.

In reporting a case of traumatic flat foot cured by an unusual operation, Carr says:

Sawing through the os calcis, between the ankle joint and the attachment of the tend. chilles, slipping the max. portion of the bone down and three-fourths of an inch, and nailing it there is operation not difficult nor dangerous.

This relatively simple procedure was carried out by Carr on an electric table 37 years of age. The saw

ing as easily accomplished with modified Wyeth saw. The wounds healed promptly and the patient walks better than before the operation. If he could not improve, the

author recommends this procedure in cases of flat foot caused by injury and those which are not improved by the ordinary methods of treatment.

PAGE P. SIXTY

SURGERY OF THE SPINAL COLUMN AND CORD

Kleinberg, S. Abbott Treatment of Rotary Lateral Curvature of the Spine. *Journal of the American Medical Association*, 1914, 13, 1153.

The Abbott method of treating rotary lateral curvature of the spine depends on the theory that the spine is flattened in its motions; the greatest degree being in relation to the fixed position. Hence the patient is placed for treatment in a hammock suspended in a vertical position. The frame has several bars on which the patient is held in a rigid and correct position. The shoulder and hip girdles are fixed and correction is obtained by the hands, made preferable by the use of a brace, which grows to the head and is attached to the side opposite the deformity, such manner that one hand pulls in and the other back and thus tends to correct rotation and lateral deviation. A plaster of Paris jacket is then applied and fastened and very large ulcers over the coracoid behind one of the scapulars over the little outside of the deformity, and the ribs on the side of the deformity. This is used for correction padding. The pads are inserted through the anterior nodes to correct the rotation and through the ribs on the side of the deformity to correct the deviation. They are inserted often the patient is older and general condition will permit and hence the maximum correction is particularly marked has been obtained now as before applied. The errors of the Abbott jacket rather than great deal of action on the spine, dyspnea and a loss of body relaxation and other external shock must be guarded against.

Perhaps the best method of judging the correction has been gained by the use of the X-ray the patient being kept in the position of the plaster jacket. In short one area is treated in this manner (the head is up) because of the location of the deformity. Three cases have been high cervical deformities, one very high because no improvement had been obtained. Of the rest four were very corrected and the remainder improved in degree.

In conclusion the author states that the Abbott method is not the best cases can be corrected but especially the milder ones but the correction is so slow that the treatment must be prolonged.

McGill, A. Ankylosis of the Spine. *Journal of the American Medical Association*, 1914, 13, 1154.

There are three varieties of spinal ankylosis. The first is due to inflammatory new bone (spondylitis

deformans). It may be caused by pyogenic bacteria or by trauma. The ossification is beaded along the ligament and thicker at the discs than at the bodies. The patient are almost all in past middle life. The second variety is bony metamorphosis of spinal ligaments, fiber by fiber with no regular projections (spondyloarthritis ankylosans). The ossification is an adaptive process to support the following primary softening of the bone. Proof of this purpose is change in the fact that the position of the ossification is advantageous for resting the strain. This type of spinal ankylosis usually occurs in young adults. The third type is spinal process such as follows: bony ankylosis of fractures.

Treatment. Remove the active or dormant source of infection. In cases of spondyloarthritis ankylosans fix by traction.

W. L. CLARK.

Ward, H. C. Bone Transplantation as Treatment of Pott's Disease. *Journal of the American Medical Association*, 1914, 13, 1155.

The author is a good review of the Vace method of producing bony ankylosis in the bony ankylosis of the spine. Nothing new is contributed to the subject. The author reports one recent case with good result and recommends the procedure.

G. I. B. S.

Castell, E. Method of Localization of Spinal Tumors with Reference to Their Medical and Surgical Treatment. *Medical Record*, 1914, 13, 1156.

The author does not limit tumors according to their origin but divides them into (1) extramedullary and (2) intramedullary tumors.

Little is known as to the etiology of the intramedullary tumors. There are several varieties of these among which are fibroma, angioma, and neurofibroma. Of the extramedullary the most common varieties are glioma, fibroma, neurofibroma, and fibrosarcoma.

The pathological conditions in the region of these tumors vary greatly according to the class to which the tumors belong. In the case of the intramedullary tumors, the destruction of the tissues of the cord is often very marked and the cord structure may be greatly displaced and thinned out. In the case of the extramedullary tumors the destructive changes are rare and appear only after the lapse of years.

The symptoms of these conditions resemble the symptoms of compression of the cord. Both have a slow evolution but it is usually possible to distinguish between those of the extramedullary type of tumors and those of the intramedullary type.

In cases of extramedullary tumor pain is a very constant symptom and is usually the first to appear. The pain is of aching type and of remarkable localization, usually in the posterior lateral aspect of the thorax. It is constant and neuralgic and is often increased by effort such as deep breathing or sneezing. Accompanying the pain, but usually appearing later, are areas of pain, numbness and anesthesia. This stage is called the nerve root phase. Later atrophy of muscles, progressive weakness in the lower limbs, sometimes in all the limbs, follows, and a progressive paraplegia develops. The characteristic feature of the paraplegia is that while the paralysis is mild the contractures are very marked. Voluntary movements of defense are often caused spontaneously but may be elicited by a very slight cutaneous stimulation. They consist of dorsal flexion of the foot on the leg, flexion of the leg on the thigh and of the thigh on the pelvis. Usually the Babinski sign is elicited at the same time. It is very important to determine the exact upper limit at which this reaction of defense can be elicited as it marks the lower limit of the tumor. The cutaneous reflexes are usually abolished at the upper level of the tumor and from this level downward. Therefore by determining these two zones, the upper limit of the reflex of defense and the upper limit of abolishment of the cutaneous reflexes, the lower and upper limit of an extramedullary tumor can be determined.

In the case of the intramedullary tumor pain is a rare symptom and is late in appearance. Paraplegia appears early, evolves rapidly and is usually accompanied by Brown-Séquard syndrome. The paralysis is real, and although there may often be contractures they do not predominate over the paralysis. Sensibility is early affected. The superficial sensibility is affected more decidedly on the side opposite the paralysis the deep sensibility on the same side as the paralysis (real Brown-Séquard). The tendinous reflexes below the compression are exaggerated as in the case of extramedullary tumor.

When the symptoms described above are reviewed it will be seen that there are many differences between those of the two kinds of tumor. The Wassermann reaction of the spinal fluid may sometimes be misleading as to the etiology of the condition.

Treatment in the case of extramedullary tumor should be surgical, and if the tumor can be reached and removed the prognosis is good. In the case of intramedullary tumor the consensus of opinion is that there should be no intervention. In rare instances, however, operation can be performed in two steps as follows: (1) splitting the dura mater over the region of the tumor and (2) removal of the tumor if it has presented itself in the period intervening between operations. The prognosis is grave however and intramedullary tumors are apt to recur.

J. H. SUTHERLAND.

SURGERY OF THE NERVOUS SYSTEM

Bismarck, K. The Spastic Paralysis of Childhood and Its Treatment (Die spastische Lähmung im Kindesalter und ihre Behandlung). Deutsche med. Wochenschr., 1933, xxxix, 609.

By Zentralblatt für ges. Chir. u. Grenzgeb.

This study presents the present state of our knowledge in regard to spastic paralysis. The clinical course of the disease is described with special reference to the paralysis, the spasms, and the involuntary motion. Considerable importance is attached to the paralysis, since recently much more has been said of the hypertonicity of the contracting muscles than about the motor weakness of their antagonists. It is decidedly more difficult to treat the latter than to weaken the excessive strength of the spastic muscles. The spasms are caused principally by multiple stimuli which travel from the periphery to the center where not being controlled by the higher regulating centers, they manifest themselves as involuntary reflex movements. One of the complications receiving special mention is the spastic dislocation of the hip-joint which has recently been noted in several cases of spastic paralysis. This association may throw some light on the mechanism of the luxation.

Exercise is the most important factor in the treatment as it only can restore co-ordination. Operative

procedures are limited to those that restore proper relations between the component parts of limb and those that overcome the existing conditions between the single muscle groups by means of tenotomy and the lengthening of the tendons. In very serious cases Förster's operation of excising the posterior roots gives good results. It decreases the peripheral sensitiveness and thereby lessens the motor impulses. On the periphery Spatz's neuroplasty and Stöckert's partial neurectomy may be used. The former seeks to raise the motor power of the hypotonic nerve and muscle area by anastomosing to them the partially resected nerve of the hypertonic area. The latter decreases the motor energy of the hypertonic muscles by resecting the single nerve-branches leading to the muscles. All operations, however, must be followed by careful after-treatment in the way of exercises. Good results can be expected only when the operative interference is regarded as merely the first step toward successful treatment. SUTHERLAND.

Harris. The End Results of Operative Treatment in Thirty Three Cases of Spastic Paralysis. Boston M. & S. J., 1933, cxix, 81.

By Surg. Gyrec. & Obst.

In the five years ending in 1933 there have been operated at the Children's Hospital Boston, 57

patient in spastic paralysis. The investigation as limited to 33 that could be traced and of this number 2 were seen at home or in the out-patient department. They comprised 3 paraplegias, 5 hemiplegias, 4 diplegias, and 1 monoplegia. From observations of the results of the operative treatment the author concludes that excellent results in these cases have followed subsequent neurotomy, and this has important bearing on the question of whether there is danger of permanent and adhesion lengthening of the tendo achillis after free division. Such conditions are especially looked for in the cases discussed and none were noted. It would seem therefore that the open operation is not so necessary.

Children who have not taken step have been able to walk as result of simple division or resection of the adductors and ham strings, and apparently much can be expected from the fully proved use of transferring the pronator radii teres to the supinator.

Considering the results of treating paretic paralysis by the section of 80 per cent alcohol of certain nerves it is shown that it is reported that return of the spastic traits has not been prevented.

R. W. LEWIS

Hohmann, G. Experiences with the Stöckel Operation for Spastic Paralysis. (Monatsschrift für die Stöckel'schen Operationen bei spastischen Lähmungen. München und Berlin, 1914, 1915, 1916. R. Zentralblatt für die gesamte Chirurgie.)

Hohmann reports on the Stöckel operation for spastic paralysis. He has performed it on 11 cases. The first nerve in the popliteal space for spastic talipes equinus was on the tibial nerve behind the internal malleolus for talipes cavus, the tibial median nerve above the elbow for flexed and pronated contracture of the hand, once on the median nerve above the wrist point for flexed contracture of the thumb and once on the obturator nerve for adduction contracture of the hip joint. The operations on the median and tibial nerves were for cases of cerebral hemiplegia in children and those on the obturator nerve for Little's disease.

On some of these tenotomies had been performed previously and in others the tendons had been stretched or there had been tendon transplantation. In 10 of them improvement had occurred after these operations, but recurrences had set in. According to Hohmann, the use of the fair row of the previous treatments was that they could not decisively influence the central process which disturbed the muscular balance. The injured extremity can be accomplished only by decreasing the excitability in the muscles. With the Stöckel operation. After the operation, complete healing of the wound must be waited and then long-continued re-education therapy adopted. Thus after treatment is very essential factor preventing recurrences. The Stöckel operation is especially adapted to cases of Little's disease and

spastic contractions following apoplexy in adults. It is not suitable for cases characterized by marked choreic movements, or for hydrocephalus and idiosyncrasy. On account of its safety it is much to be preferred to the Foster operation.

CARR

Stöckel H. and Kirschner. Result of Nerve Suture (Nervenheftung). Ber. Min. Chir. 9. J. 1914, 475. R. Zentralblatt für die gesamte Chirurgie.

This report of fourteen cases of nerve-suture is especially valuable for the exactness of the details. It is not restricted to casual observations of the operative results, but makes note of the end result on the basis of subsequent careful investigations.

Thirty-three per cent of the operations were truly successful. Three were complete failures. In one of the latter cases however a defect had to be bridged. In other patients were materially benefited. Although muscle groups remained permanently paretic. The authors emphasize the fact that in cases of injury to the bones that is accompanied by paralysis the nerves involved should be sought immediately so that time the repair be made more rapid than later. However, the nerves must be cut directly of constriction by fragment of bone and by freeing the nerve. Long continued interruption of its function may be prevented. The authors reported it as interesting that the motor and sensory functions were not impaired. In our former observations, however, not especially the tactile sense did not remain. In motor regeneration had taken place. Regeneration takes from six to eight years. Repair as effected by means of simple suture is one of the aims of the operation. The nerves are sutured about the point of injury.

The authors give report also of 11 cases of injury to the plexus from 6 to 10 wounds. In each of which the plexus was exposed. In one of these cases the nerve was removed from the nerve.

In partial success in the other there was severe intraneural hemorrhage but the paralytic symptoms disappeared after six months without further development. At the end of six years the arm in one of these patients had fully regained its normal function.

SCHWAB

Katsenelson M. Nerv. Plexus Grades (Über Plexus-Verletzungen). Ber. Min. Chir. 9. J. 1914, 475. R. Zentralblatt für die gesamte Chirurgie.

In a case of paralysis of the brachial plexus the supraclavicular nerve of the healthy side was freed from its bed from its origin to the incision scapular and brought behind the carotid artery and the jugular vein between the omohyoid and the spine to the diseased side. There it was sutured in as tension made in the plexus. The patient operated upon in this manner was nine-year-old boy, however, except for the ability to extend the fingers and flex the elbow slightly suffered from complete paralysis of the upper arm. At the end of three months after the operation he was able to move the upper

arm in all directions, to flex the forearm and to extend and supinate it a little to flex and pronate the hand, and to move the fingers in all directions. In a case of paralysis of the lumbosacral plexus the obturator nerve of the healthy side was liberated

in its entirety and carried behind the internal and external iliac arteries to the diseased side. This operation has been performed only once on the human being and such short while ago that nothing can be said as yet in regard to the result. WARD.

DISEASES AND SURGERY OF THE SKIN FASCIA APPENDAGES

Hendry. Report of an Interesting Bacteriological Finding in Case of Pemphigus. *Surg. Gynec. & Obst.* 93, April 85. By Surg. Gyner & Obst.

Hendry reports the findings of a hitherto undescribed, anaerobic, slightly motile bacillus isolated from the blebs of a case of pemphigus. The method of procedure was as follows: The surface of the bleb was secured and the fluid aspirated. The usual skin-contaminating organisms were found in aerobic culture, but cultures grown on human muscle anaerobically showed in from the third to three weeks small white colonies. On microscopical examination these colonies were made up of a very small short slightly motile bacillus in pure culture. No growth could be obtained by transfer to ordinary media, either aerobically or anaerobically though transfers to new bits of human muscle were all very successful.

A culture from the organism was prepared and given in increasing doses the patient showing some improvement during the administration. The author does not feel that this is proof of the curative value of the vaccinations but suggests that it warrants more extensive investigation along these lines.

Loeb L., and Sweek, W. O. Histogenesis of Multiple Carcinoma of the Skin. *J. Med. Research.* 1913, XLVII, 235. By Surg. Gyner & Obst.

Loeb and Sweek observed the changes that occurred in pieces of tumor that were removed from a patient affected with multiple carcinoma. The patient, a young man 33 years of age. The first growth of years standing was located on the right side of the chin under the lower lip. About 3 years previous to the removal of the growth the patient was given Röntgen ray treatment. At the time of its removal the tumor had involved the entire side of the face part of the nose, the skin in the angle of the eye and some superficial parts of the lower lip, so that it readily there were numerous definite and distinct lesions. The authors summarize their conclusions as follows:

The formation of multiple carcinoma of the skin depends on primary increase in activity of certain parts of the epidermis. In this we have to deal with an affection of the epithelial cells which is independent of proliferative changes or of collections of round cells in the connective tissue, and of three influences of the blood vessels. In our case the proliferating energy of the epithelium which led to the formation of the multiple carcinoma was rela-

tively small. The infiltrating power of the proliferating epithelium was equally slight. In consequence of slight infiltrating power we may have an outgrowth of epithelium into the air instead of a downward growth into the underlying cutis. In a certain relationship to deficiency in proliferating and infiltrating power stands perhaps the inability of the proliferating epithelium to undergo the normal metamorphosis of the surface epithelium into keratin hyaline and keratin. GEORGE E. BENTLEY.

Jeff M. Free Fascial Transplantation; Experimental Investigations (Zur Frage der freien Fascientransplantation, Experimentelle Untersuchungen). *Chir. Arch. Vierzehntes* 93, April, 1906. By Zentralbl. f. d. ges. Chir. I. Original.

The author carried out a series of experiments in free fascial transplantation, using the fascia of the tractus dermo-tibialis or that of the anterior sheath of the rectus. The transplantations were performed on the stomach, the colon, the urinary bladder and the liver of cats. Thirteen of them were made on the stomach. Defects were first made in the wall of the stomach and then the mucosa loose was cut out. Next the defect of the serosa and muscularis were closed with fascia. In one case the mucosa was not sutured before the fasciae was transplanted. In this instance fascial necrosis and peritonitis resulted. In all of the other cases (the time of observation was 73 days) the results were good. At the end of 7 to 8 days there was complete union of the fasciae with the stomach wall. The fasciae was live and new blood vessels had formed in it. The mucosa and submucosa had regenerated. The defect in the muscle remained. The fasciae resembled a tendon. The nutrition of the fasciae was derived from the alfa of the stomach. In many cases adhesions had formed between the fasciae and the omentum and a part of the new blood vessel formation was derived from the omental vessels. Adhesions to the omentum could be prevented only by resection of the omentum. The same results were obtained by the author in transplanting fasciae into the bladder and colon. At the end of 6 days the urinary bladder had a perfectly normal appearance. When the mucous membrane defects had not been sutured, gangrene of the transplant and peritonitis had resulted. The experiments on the liver for the purpose of checking hemorrhage also gave good results.

On the basis of his work the author comes to the conclusion that fasciae can be transplanted with

good results in the peritoneal cavity especially for the purpose of reinforcing doubtful suture lines. As the fascia does not contract, stenoses do not result at the site of the transplantation. On the inner side of the fascial transplant new epithelium is formed in about 50 days, and the secretory function of the stomach therefore does not suffer.

In these experiments the author describes a case of fecal fistula following appendicitis, from the Manteuffel clinic. In this instance when the mucous membrane was sutured, a piece of fascia from the anterior rectum sheath was sutured over it to reinforce it. With the exception of partial fascial necrosis complete recovery resulted. *HENR.*

Kornow P. The Free Transplantation of Fascia (Über die freie Fascientransplantation). *Arch. u. Klin. Chir.*, 93, 1917, 144.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Kornow gives an exhaustive review of the literature of experimental and clinical material concerning

free fascia transplantation. His own material is divided into clinical and an experimental part. His numerous experiments confirm and supplement previous work. A new feature is the successful closing of defects in the chest wall by transplantation of fascia. Eighteen cases are reported. The procedure was used in twelve cases to strengthen the muscle sutures in operations for inguinal hernia, and once each to close the internal ring in crural hernia, to close defect in hernia pulmonalis, to repair defect in the pleura in penetrating wound of the chest, for plastic operation of the splinter in place of Thiernich metal ring in case of prolapse of the anus, to fix the testicle in case of retention of the testicle and to mobilize an ankylosed mandibular joint. In all except one case there was union of the transplanted fascia and the clinical results were satisfactory. The author does not give sufficient number of references to the literature nor substantiate his statements by clinical evidence either for or against his procedure. *RECH.*

MISCELLANEOUS

CLINICAL ENTITIES—TUMORS, ULCERS, ABSCESSES, ETC.

Tyzer E. R. Factors in the Production and Growth of Tumors in Mice. *J. Med. Research*, 9, 3, April, 1917.
By Surg. Gynec. & Obst.

In this study and series of experiments the author attempts to answer the following questions:

In patients in whom metastasis has already occurred will the growth of the secondary masses be accelerated by the removal of the primary tumors, and will such removal shorten life or prolong it?

Do the procedures followed in the course of physical examinations and surgical operations increase or diminish the incidence of metastases?

In his experiments Tyzer used mice, and the results he obtained seem to furnish rather conclusive proof that mechanical force is an important factor in the causation of metastases. Moreover the author is convinced that metastasis is dependent also upon a number of other determinable factors, of which the biological character of the tumor tissue is of first importance. In certain propagated tumors second deposits are rarely or never observed, while in others they are frequent. This is true also of the various types of spontaneous tumors. Tyzer believes that the mechanism by which tumor cells are set free in the circulation depends to a great extent upon the structural character of the tumor and the peculiarities of its growth undoubtedly also to its age and size. Thus his experiments clearly show. Metastases of the tumor of the walking mouse may be produced experimentally by the application of intermittent pressure such as massage or gentle pinching. The results obtained

in this investigation according to the author and practical application in the management of tumor patients. From them every physician should realize the irreparable harm that may result from the manipulation of malignant tumors in their early development. *GEORGE E. BAKER.*

Stewart J. C. The Malignancy of Giant-Celled Sarcoma. *Surg., Gynec. & Obst.*, 9, 3, April, 1917.
By Surg. Gynec. & Obst.

The object of this article is to improve by the citation of cases the statements made freely in current literature that giant-celled sarcoma is benign and never forms metastases. Two cases are cited, both of which caused death, and one of which formed several metastases. The first was that of central giant-celled sarcoma of the metatarsus; death resulted from multiple metastases. The second was that of central giant-celled sarcoma of the humerus which caused pathological fracture of the bone, and death by local recurrence.

Falta, W. Diseases of the Glands of Internal Secretion (Die Erkrankungen der Endokrinen). Berlin: Springer, 1917.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Falta's clinical work is an excellent supplement to Biedl's classical work on the experimental physiology and pathology of the internal secretory glands. These he defines as glands that exert directly on the circulation a harmonious with powerful physiological effects. Adrenalin is the only one that is defined chemically. Each ductless gland has its specific function. They cannot compensate for one another although disease caused by abnormality of

function in one may be modified by a pathological condition in another. The great variety in symptomatology may be explained as being due to disturbances in these glands and to differences in the constitutions of the patients.

The diseases of the thyroid gland are divided into two classes, those characterized chiefly by local symptoms, such as goiter, tumors and inflammations, and those characterized by an increase or decrease in the secretory function. Basedow disease is caused by hyperactivity of the thyroid with secondary involvement of other glands. Faltz does not believe in the combination of Basedow disease and myxedema recognized by many experienced surgeons. He concludes that the myxedematous symptoms are the result of insufficient functioning of the hypophysis. It does not attach much importance to the involvement of the thymus. Operation should not be devised for mild cases in patients in good circumstances, those with neuropathic tendencies. Long delay is unwise. The drug frequently given to refrain from operation when the X-ray shows a thymus shadow is not approved. Faltz has observed good result from X-ray treatment. On account of the sclerotic changes in aplasia of the thyroid, old age has been compared with chronic myxedema, but reckless thyroid medication in old age must be avoided. Sporadic cretinism is a hypothyroid or a thyroid condition of a poorly-developed organism. The more severe forms are characterized by lack of development of the bones and blood-forming organs, the ductless glands, and the central nervous system.

Mild cases of thyroid weakness recover spontaneously or under treatment with thyroid tablets. In severe cases the ideal treatment by transplanting a new thyroid is not possible, for only auto-transplantation has permanent results. While thyroid medication is effective in the myxedema of adults, in sporadic cretinism it is of value only in the milder forms and when begun very early. In such cases the effect on growth is very marked. Endemic cretinism and goiter are related. Goiter is caused by drinking-water and is due probably to a toxin or toxalbumin of organic origin. Iodine treatment is effective in proportion to the degree to which the changes are hyperplastic rather than degenerative. Faltz believes that endemic and sporadic cretinism are not identical and that thyroid disturbance is not the only cause of the endemic form. The toxin of cretinism injures the central nervous system and other tissues as well as the ductless glands directly. The thyroid factor may be of greater or less importance. Therefore thyroid medication varies in effectiveness in different cases.

Tetany has been shown to be the result of insufficiency of the epithelial bodies, which are found in the thymus as well as the thyroid. These bodies produce a hormone which influences the calcium metabolism in the central nervous system. When they are deranged in function there is loss of

calcium in the ganglion cells of the spinal cord and consequently a condition of hyperexcitability. Different forms of tetany are discussed. The epithelial bodies continue to function in auto-transplantation of the thyroid. Opinions differ as to the value of calcium medication. Faltz has seen no effect from it. There are some errors in the section on diseases of the thymus. Hyperfunction of the hypophysis causes acromegaly. There is an interesting discussion of the causes of combination of acromegaly with symptoms of Basedow's disease or myxedema. Decreased activity of the hypophysis causes hypophyseal dystrophy. Administration of an extract of hypophysis is effective. Cysts and gummatous may occur in the epiphysis. Tumors are found chiefly in young males, so that it is probably a question of congenital abnormality of development. Pressure symptoms and trophic disturbances are marked — precocious development of the body and premature development of the genitalia. We think it possible that the trophic effects of pineal gland tumors affect the suprarenal glands, causing hyperplasia. Operation has never been attempted.

Addison's disease there is lymphocytosis, and frequently status lymphaticus, hyperplasia of the thymus, and atrophy of the genital glands. Decreased function of the suprarenal glands is caused generally by tuberculosis of the moon, but may result from hemorrhage or thrombosis. Sclerosis may be caused by syphilis. The special affinity of diphtheria toxin for the suprarenal glands is noteworthy as a cause of heart failure. Adrenalin is a hormone affecting this sympathetic system. It is used with good results subcutaneously in collapse, and by the mouth for abstracting oesophageal cancer and for phosphorus poisoning. Hyperfunction of the suprarenals may be caused by tumors of the chromaffin tissue. Adenoma of the cortex may cause increased development of the body and premature development of the genitalia with various abnormalities in the sexual sphere. Early castration causes incomplete development of the genitalia and increase in stature. Late castration causes contraction of the prostate. Eunuchs without being castrated, resemble eunuchs. This condition sometimes occurs in adult life as a result of diseases of the genital glands (trauma, syphilis, gonorrhea, gummatous, sexual abuse, alcoholism). In sexual defects in men, thyroid, radium and pituitrin treatment is recommended. In women, organotherapy and transplantation of the ovaries.

Faltz multiple ductless-gland sclerosis is an infectious disease that involves the greater part of the ductless gland system. It can be diagnosed clinically from symptoms of hyperthyroidism, eunuchoidism, insufficiency of the hypophysis, symptoms of Addison's disease, and cachexia. There is no definite picture from the point of view of pathological anatomy. Faltz explains gigantism as an abnormal predisposition of the entire ductless gland system. Infantile gigantism is due to a developmental disturbance of the entire organism of which the

early development of the ductless glands is only part

Stomachoids are the result of exhaustion that is, they are the last-born of families with numerous children. In the chapter on the pancreas Falta says that pancreatic lithiasis is frequently combined with cholelithiasis and that it is part of family tendency to stone-formation, which leads to indurative pancreatitis with glycosuria in 34 to 35 per cent of the cases. The question of the relation between the trauma and diabetes is important surgically. Sugar is found in 3 per cent of head injuries.

The concluding chapter treats of the different forms of obesity. Adipose dolorosa is not thyroid in origin, though thyroid treatment often shows good results. Falta has contributed much to the understanding of this very difficult subject by his clinical material. The illustrations are very helpful. The bibliography adds special study. Kloss.

SERA, VACCINES, AND FERMENTS

Lesser, K., and Kögel, H. Experimental and Clinical Results Obtained with Rosenbach T. bacillus (Ober Tuberkula Rosenbach Experimentelle und Klinische Erfahrungen). *Beitr. Klin. u. Tuberkul.* 9, 3, 1910, 92.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The authors attempt to answer the three following questions: Are there differences in the form of tuberculosis in treated and untreated animals? 1. Is there difference in animals treated with old tuberculin and with Rosenbach's tuberculin? 2. Do the preparations have specific effect on the animal body? Nine guinea pigs are injected with 1 mg. each of a strain of tubercle bacilli of the human type grown directly from the sputum. Nine others were injected with 5 mg. each of culture of bacilli. All of the infections were severe. Some of the animals were treated with Rosenbach tuberculin, some with old tuberculin, and some not treated at all. A few of the animals were killed soon afterward, and the blood was withdrawn for the purpose of demonstrating complement fixation tests whether it contained antibodies.

In the first series, the animals treated with old tuberculin seemed to show greater length of life than those treated with Rosenbach tuberculin. In the second series there was no marked difference. As to the form of the tuberculosis, the treated and untreated animals showed no difference. The former did not live any longer than the latter. In the animals which lived longest whether they are treated with Rosenbach tuberculin or with old tuberculin, glandular and pulmonary tuberculosis was most marked. In those that died early general military tuberculosis was the prevailing form. In answer to the third question, it is found that there was no fever disturbance of the general health or infiltration around the site of the injection. A fall of temperature after injection of 5 ccm. of the Rosenbach tuberculin, resembling anaphy-

lactic attack, was noted as specific effect of tuberculin. The complement fixation tests showed the presence of specific antibodies against the Rosenbach tuberculin. Genuine recoveries are not observed with either form of tuberculin. Rosenbach tuberculin is to be regarded as mild form of tuberculin.

With regard to the clinical effects noted, Rosenbach tuberculin showed only cutaneous reaction and this only exceptionally and less given in concentrated solution. For the intracutaneous reaction it was also 100 times less effective than the old tuberculin. In the diagnostic subcutaneous test the Rosenbach tuberculin always showed marked reaction around the site of injection. The general symptoms are more violent and more unpleasant than those caused by the old tuberculin. Marked infiltration, pain, and lymphangitis were frequent. The reaction to the site of injection which appeared even with the smallest doses that had no other effect, were to be explained not only as being purely specific effect of tuberculin, but as due partly to the albumose content (trichophyton products). Perceptible focal reactions appeared only after injections of 10 mg. of Rosenbach tuberculin; therefore 5 mg. is not sufficient for diagnostic injection.

In diagnosis the Rosenbach tuberculin has no advantages. It was used therapeutically only on a few patients according to Rosenbach's directions, but probably with more cautious dosage. High temperatures could not be avoided in many cases. The cases used for treatment are severe but not hopeless. The severity of the local reaction several times necessitated giving up the treatment. The influence on the general condition and the subjective symptoms was as a rule good. In several cases the clinical findings and the general condition were markedly improved. All of these cases were tolerant of the Rosenbach tuberculin, while those that turned out badly reacted much more strongly. The authors attribute the failures, severe reactions, etc., partly to the fact that the cases selected for the treatment are unsuitable. Acute and subacute cases with extensive distribution should be excluded. Reactions should be avoided. In the dosage it is to be noted that focal reactions appear sooner than general reactions, and, especially in severe cases, cumulative effect must be counted on. Large initial doses should be avoided. Toxic substances are small in amount as compared with antigens but they are present. The presence of foreign non-specific albumoses is a disadvantage, for they are partly responsible for marked local reaction. Hiss.

Levin, C. The Treatment of Cancer Patients by Vaccination (Die Behandlung von Krebskranken mit Vaccination). *Therap. u. Gynäk.* 9, 3, 1910.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author experiments animals convinced him that uterine tumors have beneficial

therapeutic action. The results justified the application of the principle to the treatment of human beings. An aetogenous vaccine was made from the extirpated tumors to test their therapeutic value in lessening recurrences and destroying metastases. The author cites two cases that were affected favorably by the vaccine and very emphatically recommends its use in suitable cases of cancer. *Stefan.*

Ruediger, E. H. The Duration of Passive Immunity Against Tetanus Toxin. *Philippine J. Sc.* 9, 3, viii, 39. By Surg. C. Mer. & Obst.

The attempt is made to determine the duration of passive immunity against tetanus by a series of experiments upon both horses and guinea pigs. The experiments are grouped under the following three heads:

1. The duration of passive immunity in the horse after the injection of homologous antitetanic serum.

The duration of passive immunity in the guinea pig after an injection of tetanic serum from the horse, preceded by repeated injections of antitetanic serum from the horse.

3. The duration of passive immunity in the guinea pig after an injection of a tetanic serum from the horse preceded by repeated injections of normal horse serum.

The author reaches the following conclusions:

The subcutaneous injection of 500 units of antitetanic serum from the horse into the horse confers passive immunity of between six and eight weeks duration.

Guinea pigs subjected to repeated inoculations with antitetanic serum from the horse do not acquire the power to eliminate it more rapidly; they acquire a tolerance as is shown by a longer immunity.

3. Guinea pigs treated with repeated injections of normal horse serum acquire passive immunity following the injection of tetanic serum from the horse, that is of longer duration than the immunity of untreated guinea pigs. *J. H. Baxley.*

BLOOD

Ordway T., and Kellert E. The Complement Content of the Blood in Malignant Disease. *J. Med. Research*, 9, 3, xviii, 57.

By Surg. Gynec. & Obst.

The authors have noted that in many cases of cancer and leukemia the blood shows such striking numerical and morphological changes as to make it seem possible that alterations in the function of the cells or plasma might be detected by examining certain biological properties of the serum. Their article deals with the hemolytic power of the serum, a particular reference to its complement content.

By their studies it seems proven that in the majority of cases the hemolytic complement content of the blood serum in the different varieties and stages of human cancer is relatively constant. The amount is practically the same as that found in health and in persons suffering with certain other diseases.

Such human serum in most cases contains one-tenth to one-twentieth as much hemolytic complement as pooled serum from adult guinea pigs.

There is no increase of hemolytic complement in myelogenous or lymphatic leukemia. The hemolytic complement content of the plasma of citrated human blood does not differ from that of the serum.

GEORGE L. BAILEY

Friedman, M. Prolonged Intravenous Infusion (Über intravenöse Dauerinfusion). *München. med. Wochenschr.* 9, 3, iv, 2.

By Zentralbl. f. d. ges. Chir. L. Grenzgeb.

Proctoclysis is destined to supersede a cutaneous and intramuscular infusion. However, in cases in which the patient is unable to retain the fluid the retention of which causes—as in peritonitis—unpleasant sensations of fullness in the abdomen the intravenous infusion of Haldenhal is the best method for administering fluids as well as medications. It has been shown that rapid intravenous infusion, especially with the addition of larger doses of adrenalin, produces a marked increase in the vascular tone and is dangerous for the heart. The author therefore has adopted the method of prolonged intravenous infusion, according to which only small quantities are infused at a time and the period of infusion is extended over many hours. The technique is the usual one, except that the cannula, the arm, and the funnel filled with the fluid must be securely fastened. To regulate the flow a pinch-cock is attached to the rubber tube.

Friedman has obtained the following impressions from his method: (1) That in the administration of salt, dextrose, and dilute solutions by the drop-method the blood pressure rises, not suddenly but gradually and remains at the same level during the period of infusion. (2) That this method has no by-effects. (3) That it causes no excessive burden for the heart. (4) That with slower infusions the heart can sustain larger quantities of fluid, so that a better flushing out of the organism and diuretic are obtained. *N. W. W.*

BLOOD AND LYMPH VESSELS

Geinitz, H. T. The Treatment of Varices with Spiral Incision (Zur Behandlung der Varizen mittelst der Spiralabschneidung). *München. med. Wochenschr.* 9, 3, ix, 57.

By Zentralbl. f. d. ges. Chir. u. t. Grenzgeb.

The author reports the later results obtained by Rindfleisch's operation for varices performed at Rudolf's clinic. In six cases the immediate result did not seem satisfactory, but the later examination of five cases, one and one-half to two years after the operation, showed a surprisingly good result. The ulcers cured only once and then it did not cause trouble. For diffuse varices and in cases where simple ligating methods have failed the spiral incision is recommended, though a sure and ideal result cannot be guaranteed. *W. W.*

in three and oligomenorrhea in three. In four cases of myonata be obtained amenorrhea in five. The cases have been under observation for several months. The duration of the treatment was between six and twelve weeks.

Vautrin A Consideration of Cystic Tumors of the Uterus of Congenital Origin (Considération sur les tumeurs kystiques de l'utérus d'origine congénitale) *Ann. de gynéc. et d'obst.* 9, 3, 35
By *Journal de Chirurgie*

In connection with the description of two cases of submucous tumors of the uterus, one of which caused an inversion of the uterus in a young girl and was examined histologically, Vautrin protests against the general tendency to believe that all cystic tumors originate in the Wolffian ducts.

Without doubt the Wolffian ducts, which are closely connected with the Müllerian ducts, are the cause of a certain number of these cystic formations, but malformations of the ducts of Müller also play an important part.

Since malformations of the vagina have been ascribed to deviations in the ducts of Müller and since any anomalies in shape, position, and development of the vagina are likewise related either to lack of development or to over-development of these ducts, why not also admit that an exaggerated growth is possible even in the uterus itself? If the development of the genital organs various evolutions in the epithelium are noted. Thus, the epithelium differs in the corpus, the cervix, and the portio. Numerous budding phenomena are observed in the formation of the uterus and its numerous glands. A aberration during these profound changes would not be impossible.

According to Meyer the encysting takes place in the organs of Müller during the three following periods: When the ducts of Müller occupy the midline and are supported on the sides by the canals of Wolff. During the joining of the canals of Müller. During the separation of the canals of Müller and the Wolffian ducts.

Vautrin states that when the epithelium covering the cyst is polymorphous in appearance, cylindrical in certain areas and flat-celled in others, the cyst undoubtedly may have originated in the duct of Müller. Cysts that have originated in the Wolffian ducts are covered entirely with cylindrical epithelium.

In certain exceptional cases this origin may be recognized by close study of the decidua in normal or ectopic pregnancy. In a case of ectopic pregnancy reported by Ferroni numerous decidua elements are found in the center of an adenomyoma, collected beneath a cavity formed by cylindrical epithelium which had its origin in the Müllerian ducts.

Vautrin asks further if very often in the center of adenofibromas there do not exist nests of Müllerian epithelium from which, by encystment, conjunctive reaction of fibroma may occur. L. CHAVENET.

Kalledey The Etiology and Organotherapy of Uterine Hemorrhages (Zur Lehre von der Ätiologie und Organotherapie der Uterinblutungen). *Deutsche Gesellschaft f. Gynäk. u. Obstet.* 9, 2, May
By *Zentralbl. f. d. ges. Gynäk. u. Geburtsh.* 2, d. Grenzgeb.

Kalledey treated twenty-one cases of dysmenorrhea by the administration of ovarian extract, and observed the immediate cure not only of the local, but also of the nervous, symptoms. Five of the twenty-one patients became pregnant during the treatment. This fact leads the author to conclude that with the regulation of the internal secretion, the condition that favors conception also is influenced favorably.

On the basis of his results the author believes that the cause of dysmenorrhea is hypofunction of the ovary. Forty-one cases of menorrhagia and metrorrhagia he treated successfully with hypophyseal extract. In five cases of hemorrhage he effected a cure by the use of corpus luteum extract. One of these patients had been previously treated unsuccessfully by all other known means.

Kalledey's opinion his results confirm the theory that uterine hemorrhages are due to correlative disturbances in the organs of internal secretion. He leaves open the question as to whether the results are produced directly by the hormones used or by the hormones produced through the stimulation afforded by the injected material.

Kalver An Obstetrical Metrorrhagia (Ein heftiges Blutguss von Metrorrhagie) *Archiv. gynäk. u. Geburtsh.* 9, 3, 27
By *Zentralbl. f. d. ges. Gynäk. u. Geburtsh.* d. Grenzgeb.

The author used 20 cc. of horse serum subcutaneously and tamponed the uterus with solution of pituitine. In immediate and perfect success in a case of uncontrollable menstrual metrorrhagia. The uterine serous injection of 20 cc. horse serum is another case of uncontrollable hemorrhage from the uterus also as followed by immediate and perfect cure. Symptoms of anaphylaxis were slight.

STATT.

Lawrence Double Uterus and Vagina. *Southern M. J.* 9, 3, 74, 477
By *Eury. Gynec. & Obst.*

The author reports the case of a married woman, forty-eight years old, who had never been pregnant. She consulted with irregular bleeding. An examination showed a vaginal septum and two cervixes.

In opening the abdomen the first appearance of the uterine fundus was that of a bicornate uterus. The left tube was not attached to the broad ligament, but lay free in the abdominal cavity. The left ovary occupied a pocket in the broad ligament adherent to the uterine body. The right tube and ovary were normal. The vaginal canals were demonstrated.

This was a case of uterus bilocularis. Several small myonata were found in the uterine wall.

C. H. D. VAN

Murphy, J. B. Procidencia Uteri. Murphy's Method of Fixing the Uterus. *Surgical Cases of John B. Murphy* 9 2, II, No 3.
By Surg. Gynec. & Obst.

The patient was 56 years of age and the trouble was of 33 years standing. With the woman in the Trendelenburg position, a transverse semilunar incision 6 in. long was made in the skin above the symphysis. The tissues were divided down to the aponeurosis of the recti. The latter were then freed from fat over an area in. and as long as the incision and their edges retracted. The right rectus was then incised for in. close to the medial line and parallel to its long axis. This incision was extended through the peritoneum. The fundus grasped by a vulsellum, was brought out through the opening until the cervicocorporal portion was clearly in view. The round and broad ligament were then clamped with hemostat on either side down to the cervicocorporal junction and cut free from the uterus down to the tip of the forceps. The stumps were ligated and the tips sewed together to the cervicocorporal junction. This portion was then slipped back into the abdomen. Thus the body of the uterus was left bare and free above the level of the divided recti.

The peritoneum was next sutured accurately around and to the circumference of the cervicocorporal portion of the uterus. The symphytic peritoneal cavity was closed. The uterus was then split through the middle from before backward parallel to the long axis of the body down to the cervicocorporal junction. It was opened laterally to form two wings. The mucosa was next cut off clear out through the divided os and down to the cervix, and removed. The lateral flanges of uterine muscularis were then sewed firmly to the aponeurosis of the rectus all the way around making a half-flap flange over the recti. Finally the divided edge of the aponeurosis of the rectus was tightly closed about the cervicocorporal portion. The skin and fatty tissues were united and small drain left in the lo. angle of the wound.

When this method is used the uterus can never get back into the abdomen. The traction on the anterior vaginal wall holds the bladder in position; that on the posterior vaginal wall holds the rectum. The only intra-abdominal work is the detaching of the broad ligaments. The stumps if these are covered by suturing therefore no bleeding surface is left within the peritoneum at the completion of the operation. If this operation is performed before the menopause, great care should be taken to remove all of the uterine mucosa otherwise periodic hematometra may form at the menstrual periods. The operation can be performed in 30 minutes. L. J. MURPHY.

Kuhn. A New Procedure for the Relief of the Retroverted Uterus. *J. Ohio St. M. Ass.* 913, VI, 79.
By Surg. Gynec. & Obst.

In this article the author gives his ideas as to the cause of symptoms and his operative treatment for the simple retroverted uterus. He states that many

women have retroversion and have no symptoms at all but that those suffering from this condition suffer through a ptosis of the abdominal and pelvic viscera, causing an engorgement and finally varicosity of the pampiniform plexuses and loca ceratio of one or both ovaries within the folds of the rolled broad ligaments. A previous inflammatory pelvic condition or related peritonitis will also cause varicosities of the broad ligaments.

Treatment. The pampiniform plexuses are both ligated. The outer ends at the pelvic border are first tied in front, leaving the ligatures longer than the uterine ends are tied in the same way, the static blood being thus expressed through an incision. This leaves the infundibulo-pelvic ligaments relaxed so they are plicated through an opening made in the anterior border of the broad ligament. The peritoneum is then closed over this position by purring suture. A ventro-suspension is now done with a long loop of cat-gut in order to temporarily relieve tension on the tender ligaments. The round ligaments are not disturbed. EUGENE CAY.

Davis, C. G. A Review of the Literature and Case Report of Ruptured Uterus. *Surg. Gynec. & Obst.* 9 3, VII, 5.

By Surg., Gynec. & Obst.

Most ruptures of the uterus are probably incomplete at first, and are not recognized until after the rupture of the peritoneum. In order to make a fair comparison of complete and incomplete rupture and especially of the methods of treating them, the statistics of both should be considered together. Following these statements Davis discusses rupture of the uterus in regard to its etiology and frequency. As to the extent to which rupture involves the uterus, the author found in his study of the cases collected by Traut, that during pregnancy 68 per cent involved the body or fundus and 32 per cent the cervix during labor 85 per cent involved the fundus, 56 per cent the body of the uterus, and 55.5 per cent the cervix. In total of 374 cases, which the list was mentioned, 33 per cent involved the cervix, and 46 per cent the body and fundus.

The probability that rupture will follow the modern Caesarean section is not great, and in most cases should not be used as an argument in favor of sterilizing or performing the Papan operation. Section cases should be carefully watched during the latter months of subsequent pregnancies, and when there is pelvic deformity overdistention of the uterus, some question as to the integrity of the old scar area. Caesarean section should be performed several days before the expected onset of labor. Under no condition should the patient undergo the strain of the second stage of labor.

Treatment by tamponade and binder is a good temporary measure and may give good results in the incomplete cases where there is little hemorrhage but in all classes of cases statistics indicate that operative treatment gives better results than conservative treatment.

Werboff J. The Uterus of Woman; Its Normal Function and Its Rupture Incident to Labor (*Das Gebärmutter der Frauen, ihre normale Arbeit und ihre Zerrungen während der Geburt*). Berlin: Karger, 93.
B. Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

The author lays down the general principles of the law governing the physiology of hollow organs of the body namely the law of peristaltic movement depending on the alternating action of the longitudinal and circular muscular coats of these organs. He pronounces our views in regard to the physiology of the uterus during pregnancy and during the puerperal state as well as the pathological relations governing rupture of the uterus erroneous.

Werboff criticizes the theory of Bandl, that thinning out of the lower uterine segment is the cause of rupture and places the fault in the irreflexibility of the tissue as a result either of difficult previous births or else as an acute developing condition in the first pregnancy. Coincident with this irreflexibility there is functional weakness of the uterine musculature, the clinical picture of rupture varying according to either one or both of these pathological conditions. According to the author there can be no prophylaxis, as the symptoms heretofore called threatened rupture are really due to beginning rupture. A detailed contradiction to the anatomic basis of the Bandl theory is offered the author applying his own law of peristaltic movement to all of the uterine functions incident to labor and the puerperium, and to the changes in form resulting therefrom. He differentiates the action of the longitudinal muscular layer from that of the circular the former producing complete effacement and dilatation of the cervix, and the latter aided by the thoracic-abdominal pressure, serving to expel the child.

In the antagonistic action of the abdominal muscles and diaphragm the upper fixed point of support for the contracting uterus is really to be found within the hump. The contractions and expansions of the hump and the changes in form incident thereto are the origin of the voluntary pressure pains, i.e., the contractions of the supporting muscles of the thoracic and abdominal cavities. Special significance is attached to the anterior abdominal muscles as being the anterior fixed points for the uterus to work against. During an insufficiency of these muscles the woman in labor endeavors to overcome the disturbance of the pressure pains resulting therefrom by assuming various positions most favorable to her.

The author recommends, as a practical aid in cases where an insufficiency exists, that suitable binder be applied during the expulsive period by the woman herself and in a manner most effective to her. In severe distastefulness of the rectum with the so-called Hängeleib the correction of the position or stretching of the contracted anterior wall of the uterus would be too painful, and therefore the application of the binder is contra-indicated. The author

has employed the binder in 3 cases, with very favorable results. The monograph closes with a complete contradiction of the Bandl theory as to effacement of the lower uterine segment even though in many points definite proof of his contention is still lacking. The article contains plates of Bandl's own work, and autopsy protocols of the author's four cases of ruptured uterus. VAWERS.

ADnexIAL AND PERIUTERINE CONDITIONS

Cohn, F. The Clinical Significance of Rupture of the Follicle in the Ovary (*Die klinische Bedeutung der Foliikelfröhrung im Ovarium*). Arch. f. Gynäk. v. 3, 207, 505.
B. Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

In the rupture of a graafian follicle the peritoneal cavity communicates with the inner part of the ovary for a time at the site of the rupture. The layer of lutein cells which form over the site of rupture is very thin and is often further thinned out by the accumulation of fluid in the space. This new cyst also may rupture and hemorrhage may follow. Bacteria from the abdominal cavity may enter into the ovary at this site.

Hemorrhage from a follicle has its origin either in torsion and or in deeper-lying ovarian tissue. Schauta has observed follicular hemorrhage of several liters of blood. Hemorrhage into the free peritoneal cavity from corpus luteum occurs newly as often. Bürger described such a case where more than 15 liters of blood were lost. Cohn adds six cases of his own to those already published. In five instances the severe hemorrhage came from fully developed and in one instance, from retrogressive, corpus luteum. In two cases ruptured in late pregnancy was suspected. In the other four cases it was found incidentally. The hemorrhage in two cases was due to pressure on the matured follicle during an internal examination. Hemorrhages of this kind may be controlled with sutures or by excising the part. Large follicular hemorrhages can also be recognized at operation. Smaller intraperitoneal hematomas may be present without symptoms, and are found only incidentally. The hemorrhages may be followed by adhesions between the adnexa and the peritoneum.

That bacteria migrate into the follicles has also been demonstrated. The frequently occurring corpus luteum abscesses are due usually to gonococci or to bacilli, and but rarely to streptococci, staphylococci or pneumococci. One case recorded by Orthmann the fistulated extremity of the tuberculous tube extended directly into the corpus luteum abscess. Frya found an ascaris in an abscess of this kind.

Fraenkel, Orthmann and Menge state that tubal diseases in particular are put to rest as an infection of the follicle and corpus luteum. The bacillus coli and anaerobic organisms play minor rôle. The ruptured follicle and corpus luteum may be penetrated also by cellular elements, such as carcinoma cells. VON MINNERS.

Von Franqué. Cure of an Ovarian Cancer with Metastases by Operation and 8 subsequent X Ray Treatment (Heilung eines Ovarialcarcinoms mit Metastasenbildung durch Operation mit nachfolgender Röntgenbestrahlung). *Deutsche Gesellschaft f. Gynäk., Halle, 9. J. May*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

I patient, 6 years old an ovarian cancer the size of a head, which penetrated deeply into the broad ligament was removed April 1, 1919. A retroperitoneal metastasis the size of a fist and numerous lymph gland metastases had to be left behind. The after treatment consisted of X raying with five erythema doses during three months, with the result that the palpable metastases disappeared. The patient has remained free from any recurrence for one year and must be considered completely cured. On microscopical examination the tumor showed the characteristics of severe malignancy well-marked mitoses polynuclear cells syncytial formations and sarcomatous degeneration of the stroma.

Steinharter. Endothelioma of the Ovary with Report of a Case of Mesothelioma of the Ovary. *Lancet-Clus 9. 5. 21, 84.*
By Surg. Gynec. & Obst.

The author discusses the classification of this condition, calling attention to the difficulty and confusion in the classification and nomenclature of similar tumors of the ovary. He believes that in no case reported has it been proved that the tumor had its origin from the endothelium of blood vessels. As all the tissues of the ovary are evidently of mesenchymal origin, he would classify these tumors as mesothelioma unless definite relation to the vascular endothelium can be established.

The author reports a case, giving a brief history, the autopsy findings, microscopical description, and four excellent microphotographs. C. H. Davis.

Seeligmann, L. A Successful and Combined Method of Biochemic and X Ray Treatment of Malignant Tumors; the Cure of Recurrent Ovarian Sarcoma with Metastasis in the Spinal Column (Über eine erfolgreiche, kombinierte Methode der Chemio- und Röntgenbestrahlung malignen Tumoren, ein schweres Rezidiv eines Ovarial-Sarkoms mit Metastasen in der Wirbelsäule gebildet). *Deutsche Gesellschaft f. Gynäk., Halle, 9. J. May*
By Zentralbl. f. d. ges. Chir. Grenzgeb.

The use of the X-ray combined with mesothorium emanations is only a local treatment which is confined to the upper layers of the new growth. It does not act upon the more deeply situated parts of the cancer and the metastases. If the present views as to the cause of cancer are considered, combined treatment constitutional as well as local, must be instituted. By such treatment it is possible to weaken the vitality of the advancing epithelial cells in the tissues that they will succumb to the destructive action of the X-rays.

Also on the basis of the other theory which is advocated by Czerny i. e., that a parasite is the

etiological factor of cancer the combined treatment is the best. It is possible that the parasite might be killed by the intravenous injection of Arsanacetin just as the spirochete pallida is overcome by salvarsan. After the destruction of the parasite or its toxins, the neoplasm can be resorbed by the X ray.

The author has used the combined method successfully in a case of pronounced recurrence of an ovarian sarcoma with metastases in the spinal column. The tumor disappeared entirely and the metastases in the spinal column were completely cured. The bad effects attributed to the use of arsanacetin can be avoided by using it in small doses and testing the sense of color every eight to ten days. Existing diseases of the eyes are a contra-indication to the use of the drug.

Ohman. Ovarian Hematoma and Ovarian Hemorrhage (Ovarienhämorrhagie und Ovarienhämatozoe). *Dunkelmo, 9. 3. 22, 35*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Six cases of ovarian hemorrhages are reported. The cases were treated during the last year and discovered during the course of the operation. In two cases the operation was performed if suspected extra-uterine pregnancy in one the ovarian hemorrhage was found associated with uterine myoma in another case an ovarian tumor was diagnosed in the fifth the diagnosis was uncertain and an exploratory laparotomy was performed and in the sixth case chronic appendicitis was diagnosed. Five of the operations were performed by the author. All the six patients recovered. Five times a hematoma had formed and in one case the hemorrhage was just beginning and was most profuse in the region of the follicles. Each case was examined microscopically. Corpus luteum hematomata were found three times. In two cases a large hematoma had formed in the middle of the ovarian stroma. Inflammatory processes were not present within the ovaries but an acute pyosalpinx was found in one case and chronic pyosalpinx in another. In the other four cases both tubes were perfectly healthy.

Ovarian hemorrhages may be classified as follows. Diffuse hemorrhages confined mostly to a follicle and its immediate surroundings without the formation of a hematoma. Hematoma formation in the ovarian stroma. 3. Corpus luteum hematoma with distinctly demonstrable lutein cells.

Surgical treatment is the best, as conservative treatment is protracted and hard on the patient. During appendectomy, especially if the appendix appears healthy attention should be given to the ovaries to discover hemorrhages or hematomata. Causative etiological factors could not be found in these cases. Björkstén.

Stetten. A Method of Ventrofixation Combined with Certain Tubal Sterilization by Means of Extra-Abdominal Displacement. *Surg. Gynec. & Obst., 9. 3. 22, 20.* By Surg. Gynec. & Obst.

The author describes a method of ventrofixation combined with certain tubal sterilization. He

points out the uncertainty and complexity of the various plans suggested for tubal sterilization and emphasizes the fact that the prevention of a future pregnancy without castration is frequently indicated in the more advanced prolapse of younger women. For such cases he recommends the combined operation, the essential features of which are as follows: Through a medial laparotomy the round ligaments are ligated about two inches from the uterus, divided proximal to the ligatures, and freed from the broad ligaments to the uterine cornua by a few snips of the scissors. The peritoneal edges of the incisions in the broad ligaments are sutured. Ligatures are then passed between the tubes and the ovaries and the tubes are freed to the uterine attachments. The freed round ligaments and tubes are then brought through a stab-wound of the fascia, muscle, and peritoneum. They are drawn taut and fixed with suture to the fascia. A stitch through the scarified fundus of the uterus is included in the peritoneal suture. The muscle and fascia are closed in the usual manner.

For more absolute fixation one of the fascial sutures may be passed through the uterus, the peritoneum having been left open. The edges of the tubes and round ligaments are tied. The tubes are ligated and the stumps cauterized. The tubes and ligaments should be left long enough to overlap in the median line. They are then stitched to the fascia and to the structures of the opposite side. The skin is closed. The round ligament fixation part of the operation is practically the method advocated by May. The drawing of the tubes through the stab wound has the double object of reinforcing the fixation and producing a certain sterility.

The author finally suggests that this lodgment of the distal ends of the tubes outside of the abdominal cavity might be used for the purpose of producing temporary sterility.

Blumberg. A New Operation for the Sterilization of Women with Force Possibility of Restoring the Fertility (Neue Operation zur Sterilisierung des Weibes mit Möglichkeit der späteren Wiederherstellung der Fruchtbarkeit). *Beri klin. W'chenschr.* p. 3, 1, 749.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Gruzgeb.

For the purpose of sterilization each ovary should be put into a pouch or pocket made of peritoneum between the broad ligament and the posterior surface of the uterus, so that no ovum can enter the tubes which remain untouched. The free edge of the broad ligament is folded on the posterior surface of the uterus, and the ovary placed into this pocket. The free edge is then sutured carefully to the uterus so that it becomes impossible for an ovum to escape. It is usually advisable in making the pocket to anchor the ovary with temporary retention suture of catgut through the lig. ovarii also to relaxate the suture line by painting it with tincture of iodine so that no loopholes remain.

The restoration of function could be accomplished very easily by later opening of the pocket with liberation of the ovary. The author has performed the operation vaginally in six cases during the past two years, with complete success as far as sterilization is concerned. He has not had occasion to restore the function.

STERNBERG.

Fink Bruns and Planch. The Treatment of Sterility in Women (Trattamento della sterilità nella donna). *Riv. internat. di chir. per p. gis.* 14, 3.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Gruzgeb.

The chief cause of sterility in the female is gonorrhea. Primary sterility on account of disease or general conditions is difficult to investigate. Sterility due to congenital or acquired malformations of the vulva is cured by incisions or other operative procedures. Changes in the development of the uterus have but little influence if the development of the ovum is normal. Infertility is curable by electricity, massage, and dilatation. Stenoses of the cervical canal of hysterical origin, accompanied by marked flexion of the uterus, must be dilated repeatedly and for long periods of time. The large number of operations devised for this trouble have resulted usually in failure. Malpositions are important causes of sterility and if correction is not obtained by means of manual replacement or possibly an intra-abdominal shortening of the round ligament is advised.

Tumors of the uterus such as myomata, are unfavorable. The author favors removing them by enucleation. Malformations of the adnexa are much less important than gonorrheal changes, therefore surgical treatment is frequently indicated, and conservatism is necessary. As secondary sterility the author considers those cases that have been pregnant once. Thirty per cent of all sterility cases are of this kind and are usually the result of gonorrhea. More rarely they result from puerperal infection.

BRUNNEN.

Hetzler. A. E. Pericolic Membrane of the Broad Ligament. *Surg. Gynec. & Obst.* 10, 3, 471, 60.

By Surg. Gynec. & Obst.

From both clinical and experimental evidence the author concludes that surgeons have taken too narrow view of the so-called pericolic membrane. In the broad ligament over varicose pampiniform plexus may be found an entirely similar structure consisting of a network of subperitoneal vessels, arranged prevaillingly parallel from below upward and connected by fine vessels with the plexus beneath. These vessels become empty when the dilated plexus is tied off and removed. In a case re-operated year after pampiniform resection, similar membrane, well marked at the first operation, was found to have wholly disappeared. An analogous formation occurs in the deep layers of the skin of the scrotum in varicocele, when vessels normally visible have become as large as goose quills.

The author has produced membranes of this kind experimentally. By careful injections of silver nitrate solution the transparent spaces in the mesentery of laboratory animals can be shown to contain minute bloodless channels which dilate and fill with blood in response to stimuli or irritation. If bits of sterile gauze be thrust beneath the peritoneum a typical perifeolic membrane develops. The perifeolic membrane is thus of circulatory origin and is a special case of what the author has called variability of the peritoneum. It is not a developmental anomaly although it may affect an abnormal peritoneal fold. It does not follow severe crises, but is always due to slight, long-continued disturbances. It is to be distinguished rigidly from pseudo-peritoneal membranes, which result from exudative processes.

Wolff. Rare Distribution of Resorbed Dermoid Contents (Seltene Verbreitungsweise des resorbierten Dermoidkalks). *Deutsche Gesellschaft f. Gynäk. Heilk.*, 1913, May.
By Zentgraf f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

In a case of right-sided ovarian dermoid with extensive resorption of fat into the wall of the cyst and into the broad ligament there were also three cysts the size of a hazel nut in the mesentery of the appendix containing typical dermoid fat contents. The changes in the wall of the tumor were identical with the change occurring in the tumor walls in the cases of resorption of fat described by Schottländer, Kromer, Gentili and others. In the absence of any demonstrable rupture of the cyst wall it is assumed that the transportation of the fat occurred by way of the lymphatics.

EXTERNAL GENITALIA

Leguen. The Transperitoneal Vesicular Route for the Cure of Certain Operative Vesico-Vaginal Fistulas (De la voie transpéritonéo-vésicale pour la cure de certaines fistules vésico-vaginales opératoires). *Arch. anat. clin. de Vichy*, 1913.
By Journal de Chirurgie.

The vesico-vaginal fistula which sometimes follow hysterectomy when the bladder has been injured in the course of the operation are very difficult to treat from below by the usual vaginal route. On the other hand, the upper route is recommended in cases of this kind. The operation is then either transvaginal or transperitoneal. Leguen has combined both of these methods in a new operation, transperitoneal-vesicular which he describes as follows.

Median laparotomy is performed below the umbilicus, with opening of the peritoneum and protection of the operative field. Then the posterior bladder wall is opened exactly in the median line the incision extending into the vagina. The cut edges are held up with forceps and drawn forward towards the pubes until the entire bladder is exposed to its base.

This gives easy access to the fistula which can then be seen through the incision in the bladder.

3. The vagina and bladder are then separated with the scissors until the two structures are as independent as they were before the fistula was formed. This separation of the two walls should be carried at least a centimeter beyond the edge of the fistula.

4. Careful suture of the bladder in two layers.

5. Separate suture of the vagina.

6. Peritonization of the injured surfaces. Leguen recommends slipping the peritoneum over the two structures in such a way as to interpose between them a veritable peritoneal cul-de-sac. He sees no danger in this interposition of peritoneum, but believes that it favors rapid healing rendering the suture firmer.

7. Closure of the abdominal wall, leaving a drain in the peritoneal cul-de-sac.

Leguen used this method in the case of a patient who had had a hysterectomy 3½ months before, developing a fistula at the base of the vagina which could be easily seen by cystoscopy and which was situated between the two ureteral orifices. The patient lost urine instantly day and night, evacuation taking place both by the urethra and the vagina. Following the operation there was some abdominal reaction with tympanites but this ceased after purgative on the third day. The vesical catheter was removed on the tenth day. At the time of leaving the hospital the 5th day the patient urinated every three hours only. There was slight escape through the vagina, but it occurred at night only and in such small quantities that the author felt justified in concluding that his procedure had been successful.

M. TACE CARVANO.

Heymann, H. and Moos, S. Experiences with the Vaginal Treatment of Gonorrhea in the Female (Erfahrungen über Vaginalbehandlung der weiblichen Gonorrhoe). *Monatsh. f. Geburtsh. Gynäk.*, 1913, April, 693.
By Zentgraf f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

Heymann and Moos employed arthigon in ninety-nine cases for diagnostic purposes, and in fifty-nine cases for treatment. For diagnosis 5 cc. given subcutaneously was not reliable. Of twenty-one uncomplicated cases of gonorrhea, a local reaction was obtained thirteen times and a general reaction once. Forty-five cases with complications (mostly adnexal disease) rendered a local reaction thirty-two times, and a focal reaction seven times. In thirteen cases of fresh ascending infections no reaction was obtained.

Very decided positive reactions were obtained also in non-gonorrheal conditions in no case of tuberculosis of the adnexa, in two cases of pyelitis with secondary adnexal disease, in one case of tubal abortion and in one case of ovarian cancer all diagnoses being confirmed by operative findings.

In fifty-nine cases arthigon was employed exactly

according to Brock's directions. I junction results were never observed. Local reaction only rarely focal reactions several times, but in most cases only on administration of larger doses. General reactions are obtained most frequently. Only fifteen cases remained without fever. All others had temperature rises from a few tenths of a degree to over forty degrees. The general condition remained unimpaired. In continuation of Brock's claims, the temperature reaction is no criterion of the end result obtained.

The results observed in fresh open cases (urethral and cervix gonorrhea) are absolutely negative in adults. Vulvo-vaginitis in children was not treated. Older adnexal disease, as scarcely influenced, nine cases showing slight improvement and seven none. Better results, however, were obtained in acute ascending distal disease. Absolute cures in 7 per cent of the cases, decided improvement in 7 per cent, slight improvement in 4 per cent, and 30 per cent none whatever. The subjects' improvement in 3 patients was good, in 4 slight. There was no improvement in 6.

Most decided improvement occurred in four complications. Ectopic pregnancy cases marked. Three had no improvement, only once in this class of cases the improvement was much more rapid than could be obtained by other methods. From these results it can be seen that the radium treatment offers no better results than the former conservative methods. The combination of both methods would probably give the best results. **BROWN**

MISCELLANEOUS

Wetzel. X-Ray Therapy (Röntgenstrahl-Therapie). *Deutsche Gesellschaft für Gynäk. u. Geburtsh. 9. J. May*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The technique for X-ray treatment is minutely described. The thorax rays through 8 different places using a tube 7.5 Becquerel-Walker and diameter of 7 cm. with 4 to 5 milliamperes per second, at a distance of 3 mm. and a focal distance of 8 cm. Two séances of 4 exposures each on two succeeding days form one series. The dose is measured by the Klenböck method and amounts to 80 per series. The rays are applied only through the anterior wall. Ten out of twenty-one cases of myomata became amenorrhoeic. In one case the myoma grew necessitating its removal. The tumor was not malignant. Amenorrhoea as obtained in 1 month on average. The age of the patient has no influence on the time. For full course of treatment 500 to 600 = 7 series are required. It is continued until the menses have remained absent for 8 weeks. A decrease in the size of the tumor occurred in 5 cases, twice from the size of man's head to that of fist or goose egg. The symptoms disappeared in 5 cases, while the tumor remained unchanged. In 5 cases of metropathia hemorrhagica, menorrhoea resulted. Average in 4 months

500 to 300 = 3 to 4 series were required for complete cure. In half of all the cases, symptoms of climacterium appeared. Disturbances of the bladder or bowels were not observed.

If wrong diagnoses can be avoided, if patients with irregular hemorrhages are subjected to diagnostic curettage before the beginning of the X-ray treatment, and if the patients are continuously kept under careful supervision during the treatment then a complete cure in clinical sense may be obtained by the X-ray treatment in cases of myomata and hemorrhagic metropathia without danger to the patient.

Fifth. X-Ray Treatment in Gynecology (Röntgenstrahltherapie in der Gynäkologie). *Deutsche Gesellschaft für Gynäk. u. Geburtsh. 9. J. May*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Fifth describes the application of the X-rays as used by Grassano, the Cologne Academy and the complications which he observed. 4 cases treated by the ray. As such, he mentions frequent desire to urinate, nausea, vomiting and pigmentations of the skin. The results of treatment are as follows: 1 metropathia, 100 per cent were improved and 50 per cent cured. 10 cases, 5 per cent improved, 5 per cent cured. 10 cases, 5 per cent improved and 50 per cent cured. Two cases each of myomata and metropathia began to bleed again, necessitating further rayings. Four cases of myomata treated by the rays were afterwards for various reasons treated surgically. 1 metropathia curettage should precede the raying to avoid hemorrhage at the first menstrual period following the commencement of the treatment.

Nausea and vomiting are probably caused by the inhalation of the gases produced during the treatment. It is intended to decompose the gas by catalytic methods before it is inhaled.

Rung. X-Ray Treatment in Gynecology (Röntgenstrahltherapie in der Gynäkologie). *Deutsche Gesellschaft für Gynäk. u. Geburtsh. 10. J. May*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Of 20 cases of metropathia, 5, or 25 per cent, became amenorrhoeic and 4 were subsequently operated. Of 90 cases of myomata, 86, or 95 per cent, became amenorrhoeic and 4 were operated. The cause of the negative result could not be determined but was probably due to a submucous location of the tumors. A decrease in the size of the tumors was noticed in about 4 per cent of the cases in which amenorrhoea was produced. The result in cases of purulent vaginitis were very good and in 7 cases of dysmenorrhoea doubtful, about 43 per cent of the latter being cured. The raying of two cases of distal inflammation resulted at first in profuse menstrual bleedings but finally in amenorrhoea.

The symptoms of change of life are not any more severe than those of the normal physiological climacterium. The author finally reports the immediate accessory symptoms produced by the raying and describes the technique. On an average 3 to 4 series are neces-

sary in metropathia, and 5 to 6 l myomata, for the production of a amenorrhoea

Heilmann X Ray Treatment (Röntgentherapie)
Deutsche Gesellschaft f Gynäk Halle 9 3. May
 By Zentralbl f d ges Gynäk Geburtsh d Gynäcgeb.

This is a report of gynecology X ray treatment at the Breslau clinic Myomat uterine tumours, rhages and isoperable, as 11 postoperative cases of cancers were treated The time elapsed since the raying of the latter is too short to permit the handing of a report Forty cases of myomata and metropathia hemorrhagica have been treated, and with the exception of one case 11 were cured In the great majority of the cases amenorrhoea was produced, and in few cases only an oligomenorrhoea In the unimproved case, suspicion of malignancy arose during the treatment and the latter was stopped on that point Finally a description of the technique is given

F H er O O Experimental Contributions to the Physiology of the Female Genitalia (Experimentelle Beiträge zur Physiologie der weiblichen Genitalorgane) *Deutsche Gesellschaft f Gynäk Halle*, 9 3. May

By Zentralbl f d ges Gynäk Geburtsh d Gynäcgeb

Fellner injected a large number of sexually immature rabbits and guinea pigs with alcoholic ethereal extracts of placenta, ovary and testis The injections, which were in part subcutaneous and in part intraperitoneal, were carried out over a long period of time

Laparotomy and sections showed that a marked hypertrophy of the uterus resulted The muscular layer was hypertrophied, the mucosa decidedly thicker and higher the epithelium, normally flat, grew higher and cylindrical, and became dotted with vertical nodules The vagina became larger and wider the epithelium assumed the character of the epithelium in pregnancy The mammary gland enlarged four or five times its normal size

Very similar results were obtained also with the male animals The uperensaries were greatly hypertrophied the kidneys showed parenchymatous nephritis with much albumen excretion Even when placental extract from the same species was used, similar but much less marked findings occurred The same results were obtained with preliminary castration before injection

The substance used is soluble in salt solution, 70 per cent alcohol and ether It is thermostable and therefore can be sterilized completely Similar results were obtained with extracts of the amniotic membranes Much weaker in effect were the results following injections of alcohol-ether extracts of corpus luteum taken from the ovaries of non-pregnant cows The same effect was obtained with alcohol-ether extracts of ovaries of pregnant cows, whereas similar extracts of the uterus of pregnant animals gave only slight reaction, and those of the uterus

of non-pregnant animals and of ovaries not containing corpus luteum of non-pregnant animals gave none at all Extracts of testicles produced the same result as the extracts of the ovaries, whereas brain extract produced none at all If cholesterol and cholesterol esters are removed from the extract the effect of the extract is not altered As to whether we are dealing with an internal secretion of the placenta, the author is unable to decide at the present time

Newman Cases Illustrating Certain Urinary Conditions in Women Associated with Frequent or Painful Micturition. *Clin J* 9 3. May, 93 By Surg Gynec & Obst

Newman gives very interesting discussion of the most important urinary disturbances in women. *Cystitis of pregnancy with its results* This form of inflammation of the bladder is often overlooked at its onset as the symptoms are attributed by the patient to her condition Another danger arises from the early disappearance of acute symptoms in many cases, and care is not taken to free the bladder from infective organisms These patients suffer from inflammation of the bladder and the neck of the urethra The author irrigates with boric acid solution twice daily and after a week has swabbed the urethra with pure phenol, and afterward with an alkali to stop the action of the acid. Cocaine bougies are introduced to relieve pain

Early renal tuberculosis is often not accompanied by pain frequent micturition or nocturnal incontinence are the only symptoms Vesical irritability and, after time, pain, also become features When the kidney is normal, the orifice of the ureter is also normal, and when one ureteral orifice is normal while the other is altered, the renal lesion is on the side of the morbid ureter

In early tuberculosis of the bladder the most characteristic changes are hyperemia of the floor and neck of the bladder, associated with small nodules beneath the epithelium of the mucous membrane of the bladder The author reports a case in which he cured the caseous deposit on the floor of the bladder through the urethra The patient was also treated with tuberculin R

Lesions of the neck of the bladder the trigone and the urethra cause frequency of urination and often incontinence H reports a case in which he twice applied his phenol treatment In other cases his treatment consisted of irrigation with the permanganate and chlorate of potassium and the instillation of weak salicylic solution In a severe staphylococcus infection of the bladder he employed suprapubic drainage and irrigated with boric acid and filtrate of sourine (lactic acid cultures)

Albinia polypt in the urethra are rare, but may cause considerable irritation They may be removed with curette or snare

A case is reported in which movable right kidney caused severe pain at the end of micturition It was cured by nephrothoraphy C H D via

Bauerstein A. Th. Atrial of Post-Operative Infection of the Female Urinary Tract (Über die Ausbreitung der postoperativen Infektion in den weiblichen hämogenen) *Zisch f. gynäk. u. Gynäk.* 9, 3, 14

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

After thorough microscopical investigations the author comes to the following conclusions. The chief source of infection is the urinary bladder in the urethra, from which organisms reach the bladder either as result of catheterization or of spontaneous ascending infection. These lead to an inflammation of lesions produced during the operation. The migration of organisms from the outside of the bladder through the bladder wall occurs only rarely and then only in severe infections of the surrounding tissue. When it does occur however the organisms are rapidly walled off by infiltration and granulations as well as by the lymph serum which runs in the opposite direction. The same conditions hold in cases of infection of the ureters. The kidneys are infected either from hematogenous source or through the spontaneous ascension of organisms from the bladder.

The principal kinds of bacteria involved are the staphylococci streptococci and the colon bacilli, the latter usually in combination with pyogenic cocci. Avoidance of catheterization is desired wherever possible. The preferred therapy is the prophylactic injection of boroglycerin and pituitary extract. In those cases in which the catheter is indispensable irrigation with collargol should be resorted to as soon as cystitis begins to develop. *Ilse*

Alyer A. The Use of Serum in Obstetrics and Gynecology (Über die Serumbehandlung in der Geburtshilfe und Gynäkologie) *Med. Cor. Bl. d. Schweiz. Arzt. Landesver.* 9, 3, 111, 15

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Gynäk.

By means of a series of successfully treated cases of dermatitis, herpes, urticaria etc. the author proves the correctness of his proposal to treat the toxemia of pregnancy with the blood serum of healthy pregnant women. If the result is negative there must be an accidental dermatitis present or the serum injected is not normal. If the latter case serum from another pregnant woman must be employed. Hyperemesis gravidarum, nephritis of pregnancy, icterus and eclampsia are favorably influenced, the latter especially by epidural injection. Eclampsia is rare in Württemberg, but in the few cases treated the results were so striking and rapid that they offered considerable encouragement for further investigations. The same is true of eclampsia neonatorum.

The author examined the serum of puerperal women who, in spite of the fact that they had hemolytic streptococci in their blood, remained perfectly well throughout the entire course. He describes the three following cases. Severe general sepsis. After 1 injection decided improvement was

noted. The associated peritonitis, however, could not be checked. Sepsis with diarrhea. The patient had received two injections of serum from convalescing puerperal sepsis case when improvement set in. S. Collapsus with diarrhea and exanthem. This patient, as given serum from patient who had a bacillus coli pyelitis. Improvement occurred also in this case. In all of the cases immediate improvement occurred in the general condition of the patients, with decrease in temperature and pulse cessation of diarrhea, etc. In pyemia the serum apparently is not of much value, as it cannot attack the organisms within the thrombi. Pregnancy serum was tried also in severe anemia, chlorosis, and especially in anaemia due to bleeding fibroids. In the latter cases it aided the patients over until operation could be performed. *Lachmann*

Alyer A. The Significance of Infantilis in Obstetrics and Gynecology (Die Bedeutung des Infantilis in Geburtshilfe und Gynäkologie) *Deutsche Gesellschaft f. Gynäk. u. Gynäk.* 10, 3, 15 May

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Gynäk.

Infantilism the first menstrual period is often delayed. The women are often and wrongly thought to be genitaly diseased and are treated gynecologically without benefit. Menstruation is frequently associated with dysmenorrhea so that the ovulating capacity is disturbed. In marriage, lowered sexual desire and dyspareunia lead to a true martyrdom and the marriage often remains childless. If conception results abortion frequently follows. The disturbances of pregnancy are often increased, all possible but harmless abnormalities being treated for this or vain. During labor, eak pains, rigidity of the cervix, decreased relaxability of the soft parts, narrow pelvis etc. indicate mechanical hindrance lateration of the soft parts, and infection.

Resistance to infection is lessened on account of the hypoplastic condition of the circulatory system. For the same reason anesthetics are especially dangerous in such cases. The ability to nurse is usually defect. The poorly developed perineum has predisposition to prolapsus, but the retroflexion uteri which is frequently observed is not the cause of the patient's numerous complaints. Treatment for it is unnecessary and often disadvantageous. A tortuous tube predisposes to extrauterine pregnancy. A deep cul de sac may cause diagnostic difficulties in intra or extraperitoneal rupture of tumors.

When infantile stigmata are associated with inflammatory adnexal disease of doubtful origin tuberculous may possibly be the etiological factor. When associated with ovarian tumors a may suspect embryonism, and when tumors are present in the pelvis, displacement of the kidney into the pelvis should be thought of. Infantile women are congenital invalids, often simulating gynecological disturbance without being genitaly diseased.

Schmitt

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Markoe and Wing. The Thyroid in Pregnancy.
Bull. L. y. p. l. Hosp. N. Y. O. S. 1. 1906.
 By Surg. Gynec. & Obst.

After examining 60 cases the authors conclude that the relation of the thyroid to the physiology and pathology of pregnancy shows its centrality in its clinical manifestations which is puzzling and difficult to analyze. The symptoms of hyperthyroidism develop during pregnancy usually also a decided diminution after confinement and with succeeding pregnancies the symptoms are not so severe. The management of pregnant cases showing thyroid enlargement with or without hyperthyroidism, is directed toward

1. Open air treatment and the improvement of the hygienic surroundings.
2. A avoidance of nervous strain and worry
3. Maximum of sleep and rest
4. Simple diet and regulation of the bowels
5. Tonic medication
6. In some cases administration of the syrup of hydrotic acid.

In cases in which the symptoms are severe the authors advise bismut rest in bed.

ROBERT T. GILLMORE

Landsberg. The Significance of the Ductless Glands for Metabolism During Pregnancy (Die Bedeutung der innersekretorischen Drüsen für den Stoffwechsel in der Schwangerschaft). *Deutsche Gesellschaft für Gynäk. u. Geburtsh. 9. J. 1907.*
 By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

The ovaries and thyroid gland were extirpated in pregnant bitches and the metabolism of hunger was studied before and after the operations. It was found that in comparison to normal conditions slight increase in the protein metabolism occurred during pregnancy after oophorectomy. A decrease in the nitrogen excretion was observed after the injection of an extract of the true corpus luteum. The decrease in the nitrogen excretion was not so marked after thyroidectomy in the pregnant compared with the non-pregnant. The hyperplasia of the thyroid in pregnancy should not be construed as causing a hyperfunction in metabolism. This also explains the retarded metabolism after oophorectomy. The thyroid gland was removed in two cases in which pregnancy continued to exist for some time after oophorectomy. A surprising decrease of the thyroid gland after preceding oophorectomy was found. Marked differences were also seen on microscopical examination. Metabolism was more decreased than after thyroidectomy.

Examinations of the phosphorus and calcium excretions were undertaken but the results obtained so far do not permit us to draw a conclusion. Further investigation will be made. The investigations made so far permit the statement that the function of the ductless glands during pregnancy shows important differences from that during the non-pregnant condition.

Horsley J. S. Abdominal Pregnancy with Living Child. *Surg. Gynec. & Obst., 9. J. xvii, 58.*
 By Surg. Gynec. & Obst.

Horsley reviews the literature on abdominal pregnancy with living child and records, with his own case one hundred and five others. There are six instances in which the mother recovered and the child and the mother were living and in good health a year after the operation. In his own case, which was one of these six, the pregnancy was apparently at full term. The woman had been in labor for some time and was exhausted. Her pulse was 40. The child and placenta were enveloped in the membrane which derived its nutrition from the left broad ligament. The uterus was about twice its normal size. The child was delivered and the placenta and the placenta were removed. The patient and child made a satisfactory recovery and both were living and well more than a year after the operation.

Schewachoff S. W. Cardiac Changes During Pregnancy (Zur Frage der Veränderung des Herzens während der Schwangerschaft). *Arch. a. d. gynäk. -geburtl. Klin. Prof. Rüdich, St. Petersburg, 9. J. 1907.*
 By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

The author examined the size of the heart in postpartum on different days (10 part) by means of Röntgen rays and also by means of fluoroscopy (focal distance 100 cm.) He used a Bauer tube. In order to bring the anticathode against the middle of the heart each time employing the same central rays each time, a special attachment was constructed. Exposures were made during the middle phase of respiration and when the stomach was empty. The patient was placed horizontally in bed. The time of exposure was not less than two seconds in order that the exposure might be made during the diastole. The measuring technique is described in detail.

From the data in the table that accompanies the original article it is evident that the size of the heart and the influence of age, size weight and number of births were different in all of the ten cases examined. In nine cases the heart did not

crease in size during the puerperium. In one case in which there was stium cordis decrease of the cardiac area up to cm occurred. From his observations the author concludes that the normal heart does not become enlarged during pregnancy and is not dilated. As to whether there is a minimal hypertrophy the microscope alone can tell.

Re: tor

Walther: The Relations of Cardiac Disease to Pregnancy Labor and Puerperium (Die Beziehungen der Erkrankungen des Herzens zu Schwangerschaft Geburt und Wochenbett). Deutsche Gesellschaft f. Gynäk. Heile, 9. u. 10. May.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

Considering the high degree of certainty with which aortic aneurism is recognized by means of the orthodiagram, the thorax feels justified in discussing the relation of cardiac disease to pregnancy labor and puerperium especially aortic stenosis and its result—aneurism of the aorta. Among the 35 cases of alvular defects which are observed in the past 1 years during pregnancy labor and puerperium there were five which presented the picture of aortic insufficiency. In three the orthodiagram revealed broader aortic shadow two of the latter also had left-sided recurrent laryngeal paresis and hoarseness. Two of these patients gave positive Wassermann. In two patients clinical findings of aortic insufficiency were present. In the third case the luetic change (noted particularly the red and descending aorta (x-ray report) of the aorta as dilated, a sacculus aneurism. The clinical findings hinted by percussion and auscultation are however much less marked.

The course of the pregnancy and labor as different in the three cases. In the case 1 with the aortic shadow as narrow and a thick no pressure symptoms or dyspnea existed no cardiac disturbances set in during the entire pregnancy until a few hours before delivery. Dyspnea made its appearance 5 hours before delivery and for that reason the patient entered the hospital. Labor and the puerperium however, went on without any serious disturbance of the circulation. In the second case, which the widest aortic shadow as present the patient during the eighth month commenced to complain of severe pains in the back and left side with dyspnea and cyanosis. The interest of the child the patient as treated symptomatically bringing the interruption of pregnancy as near terms as possible. Suddenly rupture of the membranes and death occurred. Immediate Caesarean section however failed to revive the asphyxiated child. As soon as rupture occurred contractions of the uterus were perceived. In the third case with the medium-sized aortic shadow, pains in the chest dyspnea and hoarseness developed in the middle of the last month of pregnancy. As labor set in, dyspnea, oppression of the chest and cyanosis became aggravated and as the blood-pressure was 160/100 double the normal at the beginning of labor. Caesarean section was performed under lumbar anesthesia.

From the literature he concludes that in aneurism of the aorta pregnancy rupture of the neurism usually occurs during the latter half of pregnancy or during labor. It is highly probable that the rise of blood-pressure incident to uterine contractions during pregnancy and labor is the cause of the rupture. The author's conclusions are the following: That a pregnancy in a patient with an aortic aneurism should be terminated by Caesarean section under lumbar anesthesia and that sterilization should be performed at the same time.

Gröné: Pregnancy and Labor in Organic Heart Disease (Om graviditet och förlossning vid organiska hjärtsjuk). Ålän. med. Läkarsäll. Stockholm, 913.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

The author investigated the material of the hospital (Malmo). Fifty-four labors are observed. Forty-two women who had cardiac disease, 1 cardiac insufficiency. 20 labors occurred in 18 women three labors in one patient and five labors in another. Three died. Fifteen women had mitral insufficiency 23 mitral stenosis plus mitral insufficiency aortic insufficiency and aortic and mitral insufficiency. In 34 cases compensation was good, 13 poor. In the latter 6 were near decompensation. The per cent of pregnancy occurring in women with cardiac disease was 1 per cent. In 87.5 per cent no disturbance of compensation occurred during pregnancy. Concerning the influence of heart disease the author concludes that the importance generally symbolized it as causing spontaneous abortions is largely overestimated. Labor was spontaneous in 3 cases and operative in 14 (forceps 10 times, manual extraction twice. Caesarean section once). The uterus as emptied 9 times. 11 forceps and 11 forceps in 10 births. Not once did a severe post-partum hemorrhage occur.

Abortion should not necessarily be forbidden in these cases. In the literature the author found as average mortality of 1 per cent in pregnancies with heart disease. The mortality as 2.6 per cent in cases collected by him. It is not any more dangerous to go through labor with well-compensated valvular disease than under normal conditions. Women suffering from heart disease could be placed under the observation of a physician during the last half of pregnancy. The termination of labor should be left to nature. Interference should be resorted to only in cases where the expulsion is too protracted and the patient is put under great strain by the labor pains.

Profound ether narcosis seems not to be contraindicated in uncompensated heart disease. Positive advice as for the induction of premature labor can hardly be fixed. Each case must be treated strictly individually. Premature labor was induced only once. The fatal result for mother and child. For the induction of premature labor the author recommends rupture of the sac and placenta. In uncompensated cardiac disease induction can be in

question only in the beginning of pregnancy and then only in multiparae. The latter cases should also be treated individually. The induction should consist in tamponing the cervix, uteri and vagina and, if possible, in rupture of the sac. Evacuation of the uterus is accomplished with abortion forceps and dull spoon. Finally the author states that the prohibition of marriage is not justifiable in all compensated cardiac disease. In cases of uncompensated cardiac disease or those such as new the limit of compensation each and every case should be judged individually. **Bjorkstrom**

Van der Hoeven, P. G. T. Myoma Operation During Pregnancy. (*Myomectomie in de zwangerschap*). *Verh. Medisch. u. chiric. u. Verenz.* 9 3, 4, 1905.
B. Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author gives a short résumé of the operative treatment of fibroids during pregnancy giving case histories and references to the most important literature on the subject. He then reports three of his own cases in which pregnancy was not interrupted after enucleation of the fibroids and living children were born at term. The prognosis is very favorable for both mother and child. **Strass**

Van de Velde, Myoma R. reflexion, and Pregnancy. (*Myoma, retroflexio in de zwangerschap*). *Verh. Medisch. u. chiric. u. Verenz.* 9 3, 4, 1905.
B. Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author reports three cases of pregnancy complicated by myomata and retroflexion. In the first case the myoma was situated in the anterior wall of the uterus and was nucleated during the fourth month of pregnancy by laparotomy. Birth followed three days later. There were no further complications. In the second case the myoma was situated in the cul-de-sac of Douglas. The uterus rose out of the pelvis in the course of the pregnancy. Spontaneous delivery of a living child resulted after the tumor had been lifted out of the pelvis manually. In the third case the pregnancy was complicated by peritoneal symptoms as the tumor had grown from the posterior uterine wall and was adherent in the cul-de-sac. At term Cesarean section was performed and a living child delivered. The uterus with the placenta and fibroid was then amputated supravaginally *en masse*. The recovery was uneventful. **Strass**

Kosmak, The Diagnosis and Treatment of Eclampsia. *Bull. Lying-In Hosp. N.Y.* 19 1, 1, 1905.
By Surg. Gynec. & Obst.

Considerable stress is laid upon the diagnosis of the premonitory signs, as the prophylaxis is of such great importance. Each patient should be warned by the physician of the significance of headache, slight nausea, dizziness, and visual disturbances during the last two months of pregnancy. The author calls particular attention to those cases which have toxemia without convulsions.

When the patient is seized with a convulsion he gives immediately $\frac{1}{4}$ grain of morphine followed by the administration of cathartics and enemas together with blood-letting in suitable cases. He warns against the indiscriminate use of chloroform and believes that many deaths have resulted from chloroform poisoning. Diaphoresis is encouraged by wrapping the patient every two or three hours in a blanket rung out of hot water until perspiration is free. In the absence of edema the blood-stream is diluted by colonic irrigations with normal salt solution, not less than 4 gallons at a time with a temperature of 5° F. Eclampsia comes on between the seventh and ninth month and if labor does not proceed spontaneously pregnancy should be deliberately terminated without dangerous haste. Where the pulse is of high tension vitrum viride and nitroglycerin are used.

1. Kosmak's summary he urges:

The certainty of diagnosis.

2. Governing the treatment by the signs and symptoms of each individual case.

3. Conservative sedative and eliminatory measures before radical operative measures.

4. One convulsion should never decide the surgical interference. **ROBERT T. GILMORE**

Schlossberger, A. Two Cases of Eclampsia Cured by Means of Hypophyseal Extract (Zwei Fälle von Eklampsie geheilt mit Hypophysenextrakt). *Deutsche u. Wochenschr.* 9 3, 1905, 100.
B. Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Case. The patient forty-two years old was at term in her fifth pregnancy. The cervix was closed and convulsions had been repeated. The urine showed five per cent albuminuria, 1 cc. pituit gland and 0.05 gm. pantopon was injected. Convulsions ceased after one and one-half hours and consciousness returned after three hours. A second dose of pituit gland was given. Spontaneous delivery occurred five hours after the first injection. Recovery was complete. Case. The patient was twenty-three years old and six months pregnant in her second pregnancy. She was unconscious having repeated convulsions and anuria. Injections were given as in Case. After forty-five minutes the convulsions ceased and diuresis began in three hours. A second injection was given and spontaneous delivery occurred in five hours. The postpartum was normal. **HARRICK**

Routh, A. Observations on the Toxæmia of Pregnancy and on Eugenicæ from the Obstetric Standpoint. *Lancet Lond.* 9 3, 1905, 63.
By Surg., Gynec. & Obst.

The author gives a brief review of the recent work on the toxæmia of pregnancy serum diagnosis, the relation of the organs of internal secretion and their genital functions, and lactation.

In discussing eugenics from the standpoint of obstetrics he says: The chief aim of those seeking to endow motherhood should be to give every

mother an assurance of security and well-being during the whole time of pregnancy labor and the puerperium, each of which is to her a period of anxiety and stress.

Eugenics should begin before birth, not afterwards. When syphilis is suspected small doses of mercury given during pregnancy often result in a healthy child. It has been computed that if women were properly examined in pregnancy half the still-born children would be saved.

Routh believes that the registration of births should be compulsory not only after viability but also for every period of pregnancy. C. H. D. vs.

Cerr. Cesarean Section. *IF Va. M. J.*, 9, 5, vol. 1.
By Surg. Gynec. & Obst.

The author gives a brief history of this operation, and reports that he has performed six Cesarean sections without a death. Three of his patients had contracted pelvis. In one case where the measurements were carefully taken the true conjugate was 6½ cm. Two patients were girls under sixteen years of age who had been in labor sixteen hours, with only partial descent of the head, and the cervix partially dilated and rigid. A fibromyoma in the sixth case made a modified Porto operation necessary.

The author believes that with the present low mortality and low morbidity Cesarean section should be considered in every case of difficult labor provided a skilled surgeon and good nurse are to be obtained. C. H. D. vs.

Hartmann, K. and Loschcke, H. *The Uterine Scar Following the Suprasymphysal Extraperitoneal Cesarean Section* (*Die Uterusnarbe nach suprasymphysärem extraperitonealem Kaiserschnitt*). *Gynäk. Rundschau*, 19, 5, 154.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Gynäk. Hartmann had occasion to extirpate, during the fifth month of pregnancy, uterus, which he had previously performed to suprasymphysal Cesarean sections (the oblique incision of Frank) one incision to the right, and one to the left of the median line.

At the time of operation the relations were normal, no adhesions of any kind being present. The scars could not be recognized macroscopically, microscopically five connective-tissue strands with interlacing muscle fibres could be seen. In the cervical musculature alongside of the scar there were cystic cavities filled with mucus. These cavities were lined by cervix epithelium and were probably epithelialized stitch canals. Outside of these cavities there was an accumulation of foreign-body giant cells surrounding unabsorbed catgut rests. The anterior wall of the cervix was decidedly thinner than the posterior due to the bilateral scars.

Hartmann advises employing absorbable suture material and the avoidance of including the mucus in the stitches. No adhesions with fresh primary union occurs and the scars will not weaken in repeated pregnancies. Buxia.

Van der Hoeven. *The Chances for Subsequent Pregnancy after the Classical Cesarean Section* (*De kans op zwangerschap na de klassieke sectio caesarea*). *Nederl. Maandschr. verlosk. en Gynaec.*, 9, 3, 11, 90.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Gynäk.

The author investigated the subsequent history of women who had been subjected to the classical Cesarean section at the Leyden clinic during the years 1896-1900.

There were 4 cases, one of which died 1 year after the operation of pulmonary tuberculosis one could not be found, and five were unmarried. Two of the remaining seventeen had had subsequent abortion, and only nine of the twenty-four had given birth to children. Six of the latter had delivered one child, one had delivered two, one had delivered three and the last one had delivered seven children.

The indications for the operation had been narrow pelvis, eclampsia, etc. Six of the seventeen had had subsequent Cesarean section five of the six then remained sterile. The author thinks that intra-abdominal adhesions are the cause of the low fertility of these women, and is in favor of the vaginal (cervical and transperitoneal) section. Buxia.

Beckmann, W. *Cesarean Section Performed for Vaginal Stenosis Following an Operation for Vesico-Vaginal Fistula* (*Kaiserschnitt wegen Scheidenstenose nach vesicovaginaler Blasenfistulaoperation*). *Ztschr. f. gynäk. Urol.*, Leipzig, 19, 3, 179.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Gynäk.

The author claims that in Roman vaginal stenosis following an operation for vesico-vaginal fistula is quite commonly an indication for Cesarean section.

A patient, twenty-seven years old, acquired scar stenosis of the vagina following the first pregnancy. The contraction was situated about the middle of the vaginal canal and a catheter introduced through it entered the bladder. Operation was performed by tearing the scar tissue and turning the fistula, whereupon cure was effected. Shortly after a pregnancy occurred, the patient however not entering the clinic until three days after the onset of labor and after rupture of membranes had occurred. The child was dead. The lower part of the vagina was markedly contracted the lumen being about the size of a lead pencil. The cervix was not palpable. Pulse and temperature were normal. Classical Cesarean section was performed and she was delivered of a macerated fetus weighing 3300 gm. A supravaginal operation of the uterus was performed for the purpose of sterilization. The recovery was uneventful.

Buxia.

Lange. *Suprasymphysal, Cervical Cesarean Section* (*Über Tragen der suprasymphysären, cervicalen Kaiserschnitts*). *Monatsschr. f. Geburtsh. Gynäk.*, 9, 3, 11, 111, 66.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Gynäk.

Lange reports twenty-eight cases treated by this method. He gives also his experiences with it in

forty-two cases of contracted pelvis. The periton was performed transperitoneally (a) 1 cases where last was necessary on account of weakness of the fetal heart sounds, (b) in cases where previous extraperitoneal section had been performed and the presence of firm adhesions was suspected and (c) in cases which were operated upon abortively after the onset of labor. Otherwise in twenty-four cases the extraperitoneal method was employed, but its completion only in eighteen. Of the total number 1 entry-six had been examined previously outside of the clinic. In fourteen instances the operation was performed before the membranes had ruptured or within an hour afterward but the rest much longer time intervened, in one case sixty-one hours.

The maternal mortality was very low only one case dying from sepsis. One of the children was born deeply asphyxiated and could not be resuscitated. No accidental injuries occurred. The number of cases of atony was rather high (5) in spite of the subcutaneous injection of an active ergot preparation shortly before operation. In six cases tamponade of the uterus was necessary, in seven adrenalin injected into the uterine musculature was sufficient. The operation was performed four times for the second time. In two of these cases the old uterine scar was firm in the other two it was thinned. In one case, however, the scar resisted contractions for thirteen hours until complete effacement and dilatation had occurred. In the other case the scar resisted contractions for six hours without rupture. A temperature of over 38° C. occurred eleven times during the puerperium, but in most instances it was transient, lasting for only a few days. One prolonged case of sepsis ended fatally.

7 cases

Kitner O. Cesarean Section of the Dead and the Dying Woman (Kaiserschnitt an der toten und sterbenden Frau.) *J. allg. med.* Berlin, St. Petersburg 9 3, xlviii, 199
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Gynäkol.

The author reports six cases of Cesarean section, four on dead, and two on dying women. Among the former there were two cases of eclampsia, myocarditis cordis with marked pulmonary edema and hyperemia, and one marked kyphoscoliosis. The operation was performed within one to ten minutes post mortem. Usually Kitner was forced to operate with unsterile instruments. All of the children were in a more or less severe asphyxia, but were revived.

The two operations upon dying women were for severe eclampsia. The children were born alive. The mothers died within two to four hours after the operation. Kitner is in favor of Cesarean section in all cases of dead women with viable or living children. It is much more difficult, however, to set the indication of the dying, and the moment of approaching death is determined with difficulty. Cesarean section should be performed in all cases except those in which the mother is conscious and refuses the operation. Nearly always the child is

saved, and occasionally the mother also. The section on the dead should be performed in all cases under aseptic conditions just as on the living.

GASPER.

Veit J. The Technique of Cesarean Section (Zur Technik des Kaiserschnitts) *Zentralbl. f. Gynäk.* 9 3, xxxvii, 75
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäkol.

Cesarean section to-day is a harmless procedure. Schetz advises the use of the transperitoneal instead of the complicated extraperitoneal Cesarean section. Veit also recommends the classical section for general practice, his reason being that on account of its relative simplicity it can be performed more easily by inexperienced operators. Veit places his patient in the high pelvis position which brings the uterus out of the pelvis. He makes one third of the incision above the umbilicus and two thirds below it. The general peritoneal cavity is walled off with towels, and the uterus incised transversely. An assistant then forces the uterus upward so that the transverse incision lies above the abdominal incision. The placenta and membranes are next removed and the uterus is sutured with silk and a second sero-serous suture of catgut. After the removal of the pads the uterus is allowed to drop into the pelvis. A extreme anteversion of the uterus is to be avoided, as it may cause rupture. In the manner described the uterus can be emptied without allowing escape of its contents to enter the peritoneal cavity. The author has operated upon forty patients by this method with good results for the mother in every case.

HORN.

Pobedinsky N. The Results Obtained with Cesarean Section in Russia During the Last Twenty Five Years (Die Erfolge des Kaiserschnitts in Russland in den letzten 25 Jahren) *Zentralbl. f. Gynäk.* 9 3, xxxvii, 157
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Gynäkol.

Prior to 1885 all but three cases of Cesarean section performed in Russia ended fatally. Since then 446 operations have been performed including those done for relative indications. Between 1885 and 1900 forty-two operations were performed, principally for contracted pelvis, with a mortality of forty per cent due to bad asepsis and unfavorable conditions. Between 1900 and 1909 there were eighty-four cases, mostly for contracted pelvis, with a mortality of sixty per cent. The improvement in results was due to better asepsis. Between 1900 and 1909 there are recorded 340 cases, principally for contracted pelvis but also for scar contraction of the vagina, and for tumors. Recently it has also been performed for eclampsia, placenta previa, stenosis of the cervix and for transverse presentation. The mortality was 75 per cent but only 3.2 per cent if eclampsia and malignant tumors are excluded.

Frequently bad conditions were met, such as examinations by ignorant and dirty midwives, other operative procedures, presence of temperature pre-

eding the operation, and each rupture of the membranes. Since 1923 the extraperitoneal methods have been employed but abandoned again, as they proved illusory. Incision through the placenta.

Offers a good prognosis. Simplicity of technique is the keynote and the incision is but little larger of bladder injury. Dead children are found nineteen times in 320 cases. The live of which however the solution is doubtful. The operation performed twice the same patient in three cases with one death.

Resection of the bladder employed twenty three times in thirty years for sterilization. The indications being repeated carcinoma section of the cervix and uterine cancer. In the obstetrical clinic at Moscow (Russia) section the living was never performed before 1930 because of absence of blood test and acted pelvic poor result. In other clinics and poor survival. Between 1930 and 1934 contracted pelvis were found in 13 at three per cent of the cases. These were prior palliated by perineal laceration and not craniotomy. The first (caesarean) section was performed in 1905 with good result. Since the third case operation has been performed best for contracted pelvis. A maternal mortality of nine per cent and fetal mortality of 100 per cent. Out of the 13 cases there are fourteen (caesarean) sections performed. Mortality 100 per cent.

W. W.

LABOR AND ITS COMPLICATIONS

PIA, K. Some Aspects of Labor Mechanism in the Female Brain. *Acta Med. Scand.* 1934, 101, 1-14. By Burg Gyner & Ure.

The authors test that he finds from study of the female pelvis in cadavers and skeletons that the perineum of the sacrum does not project material distal to the inlet. He believes with Spengler, Dorland and DeLee that the majority of cases presentations engagement in the transverse diameter of the inlet is the rule.

Faure believes that in high forceps operations the axis tract no blades may be applied antero-posteriorly to the axis of the head provided the perineum is dilated previous to the application. Very little force is necessary. Using the head in the pelvis in 3 cases, such the operation is justifiable, provided the soft part are properly dilated.

L. H. D. W.

Lehl. The Treatment of Frontal Presentations (Die Behandlung der Vorderhauptlagen). *Mitt. d. Gyn. u. Geburtsh. d. Grenzgeb.* 1934, 101, 1-14. By Zentgraf, J. d. Gyn. u. Geburtsh. d. Grenzgeb.

This rare abnormal presentation was found 320 times in 304 labors of the Munich gynecological clinic. Concerning the etiology of the frontal presentation none of the commonly mentioned causes were frequently met. The child plays the chief rôle in the origin of the frontal presentation

more often than the mother. Fortunes of small and middle weight were found in the overwhelming majority (84.3 per cent) like large children eight or more than 3500 gm. with normal-sized or over-sized head were seen in 57 per cent.

The prognosis is relatively favorable for the mother. Spontaneous expulsion of the child occurred in 77 per cent of the cases, the remaining 23 per cent necessitated surgical intervention. The forceps were used 65 times (20 per cent) without traction 4 times (1.3 per cent) version and perforation of the head 5 times (1.6 per cent). The prognosis for the child is not so favorable. In the 31 cases of frontal presentation 57 of the children were more or less asphyxiated and one died. Thirty children died (9.4 per cent) death being directly or indirectly due to the course of labor. Those deaths included which took place during the first 3 or 4 days after labor the result of trauma sustained during birth (hemorrhages of the brain). In the 65 cases which were terminated by the forceps, the delivery of the head was impossible seven times.

If the extraction with forceps in frontal presentation is impossible the author recommends the method of repeated applications of the forceps as taught by Schroeder in order to improve the position of the head. The operation consists in applying the forceps diagonally, the concavity being applied to the frontal part of the head. The head is then rotated to transverse position by simultaneous traction of the two legs and the forceps are removed.

and again applied as in the low transverse presentation (version directed against the occiput). The head is then rotated to the median position and delivered in the occipital posterior presentation. The result of the operation are very favorable. The technique is not difficult. All seven cases mentioned above could be terminated favorably if treated in this manner.

In conclusion the following rules are given for the treatment of frontal presentation. Long continued pelvic treatment which results in 77 per cent of spontaneous births. Combined external and internal rotation of the fetus according to Fehling method. In corresponding positions of the parturient. The Fehling method is most successful delivery of the child in frontal presentation. If these prove ineffectual, Schaeffer procedure must be performed. Illustrations.

De Bova, R. Acc. Dilatation of the Stomach During Labor and Immediata ety Therapist (La dilatazione acuta del stomaco durante le parturizioni e le sue conseguenze immediate). *Semin. med.* 1934, 101, 1-14. By Zentgraf, J. d. Gyn. u. Geburtsh. d. Grenzgeb.

Although acute dilatation of the stomach quite often follows surgical operations, it is exceedingly rare during labor and the early puerperium only ten such cases having been published thus far. These cases the author divides into three groups according to the pathogenesis.

I the first of these groups he places the idiopathic true obstetrical cases, i.e. those without preceding gastro-intestinal disturbance and without anesthetic during labor. Prolonged and painful labor, eclampsia, and constitutional injury induced by loss of blood, intoxication, eclampsia, or infection, together with an increase in the ptosis due to rapid delivery and traction on the mentery may be predisposing factors. In one case of contracted pelvis and breech presentation, the author attributed the dilatation to compression of the duodenum by the head. In other cases the walling off of the dilated dilatation which was due primarily to accumulation of gas within the bowel.

The second group includes cases following anesthesia for such operative interference as Cesarean section. In these it is difficult to state how much the obstetrical element contributes to the purely surgical cause.

In the third of his groups the author considers those cases in which the dilatation is merely accidental complication of pregnancy as shown in case of perforated gastric ulcer with intestinal obstruction and in another of Cesarean section in cachectic patient suffering from uterine cancer. In another instance the author attributed the dilatation to excessive loss of blood due to placenta previa. The mortality of the cases published excluding three patients who died of perforation by gastric ulcer, hemorrhage and cancer cachexia, was 3 or 4 per cent. The treatment is the same as that in cases due to surgical interference, i.e. abdominal position, gastric suction, and lavage.

VAMBERG.

Ries-Finley. Uterine Dystocia Secondary to Mitral Stenosis. *Gynecol Med* 9, 3, 98.
By Surg. Gynec. & Obst.

The author reports case and tabulates the following general principles regarding valvular heart disease.

Of all the varieties of chronic valvular heart disease mitral stenosis is most commonly accompanied by heart failure during pregnancy.

Aortic stenosis without mitral stenosis is rare in women few cases of pregnancy in women who have aortic without mitral disease come under observation.

3. When symptoms of heart failure have preceded pregnancy they are made worse by pregnancy.

4. Repeated pregnancies at short intervals cause greater risk of heart failure than do few pregnancies at longer intervals.

C. H. DAVIS

PURPERIUM AND ITS COMPLICATIONS

Freeman. Incidence of Malaria in the Puerperium. *Southern Med J* 9, 3, vi, 429.
By Surg. Gynec. & Obst.

The author believes that malaria is fairly frequent complication of the puerperium. He mentions the following point in establishing the diagnosis:

Absence of any demonstrable signs of sepsis.

2. Periodicity or the return of the fever at a definite time. His experience shows that with the malaria there is a definite return of fever on the third or fourth day.

3. Examination of the blood for plasmodia. Positive findings are absolute, but negative findings are not.

4. Control of the fever and restoration of the patient by quinine.

In the discussion, prophylactic doses of quinine were advised during the puerperium whenever there is a history of malaria.

C. H. DAVIS.

Ohman K. H. Ovarian Abscess After Labor (Ext Fall of pyrovarium after partus) *Finische Lääkärisseili lehti*, Helsingfors, 1913, 1, 447.
By Zentralbl. f. d. ges. Gynaek. u. Geburtsh. u. Gynäc.

Ohman reports a case of ovarian abscess in a primipara 31 years old. The pyro-ovarium formed in connection with labor. The patient was successfully operated upon five months after labor. Streptococci were found in the pus. The ovary was the size of a goose egg with one large, and several smaller abscesses. The tube of the corresponding side and the adnexa with other side were healthy. Part of the ovarian stroma was still present. Microscopical examination showed that only the outer 5 cm. of the abscess wall was intact. In this wall were found connective tissue proliferation, numerous plasma cells and polymorphous leucocytes. The eosinophilic cells had penetrated more deeply into the intact tissue layer than the others. The contents of the abscess cavity consisted for the most part of polymorphous leucocytes, eosinophiles, a few lymphocytes and here and there a plasma cell. The bacteria did not take the stain in the sections.

HJELMSTEDT

MISCELLANEOUS

Engelhorn. The Biological Diagnosis of Pregnancy (Zur biologischen Diagnose der Schwangerschaft) *Zentralbl. f. Gynaek.* 9, 3, xxviii, 73.
By Zentralbl. f. d. ges. Gynaek. u. Geburtsh. u. Gynäc.

Engelhorn reviews Abderhalden's method for the diagnosis of pregnancy and the results so far published that have been obtained by it. He, himself, has tested the dialysis method in 68 cases. In each instance he used the serum of both pregnant and non-pregnant women. The results were as follows: In 60 cases of pregnancy the reaction was positive 49 times from the fourth to the tenth month and negative 11 times during the ninth and tenth months. In 48 non-pregnant women among whom were women with normal genitalia, with prostatic cancer tumors and lying-in women, the reaction was positive in 31 cases and negative in 7. The author examined also the action of the serum of pregnant and non-pregnant women on coagulated cancerous tissue, fetal liver tissue, and ovaries. The results were contradictory. He does not consider

Abderhalden's dialysis method specific reaction as diagnosis cannot be rendered by it. RUMKAMP.

Jellingshaus and Loewe. The Sero-Diagnosis of Pregnancy by the Dialyzation Method. *Bull. Lysol. Hosp. N. Y.* p. 3, 12, 14.
By Surg. Gynec. & Obst.

Their experiments are based on 563 examinations of different individuals and while not absolutely conclusive, they favor the opinion that it is possible by the dialyzation method to distinguish between healthy pregnant and healthy non-pregnant women.

ROBERT T. GILLMAN.

Abderhalden, E. The Diagnosis of Pregnancy by Means of the Dialytic and Optical Methods (Die Diagnose der Schwangerschaft mittels des Dialysenverfahrens und der optischen Methode). *Deutsche Gesellschaft f. Gynäk. Halle*, p. 3, 11, 12.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

Abderhalden gives review of the principles of ferment reaction in the body and explains the dialyzation and optical methods. He holds that the methods are theoretically correct and the bad results reported are unquestionably due to poor technique.

The sources of the error are as follows: The blood used is hemolytic or is not well centrifugized, containing cells which digest in the dialyzing test.

The thrombes used are not well tested, not constant. The organ has not been thoroughly freed from coagulable bodies which react with mischytol. If the serum alone and the organs alone contain each less than enough amino acids to give positive reaction when placed together the addition may be enough to give reaction though no digestion has taken place. This may occur in conditions like cardiomas, in salpingitis and hematomata where proteid products are absorbed in the blood. Only violet or bluish color is positive.

Mayer, A. Abderhalden's Pregnancy Reaction (Die Abderhalden'sche Schwangerschaftsreaktion). *Deutsche Gesellschaft f. Gynäk. Halle*, p. 3, 11, 12.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

Mayer considers Abderhalden's pregnancy reaction valuable as a diagnosis. By its use it is possible to determine whether the conception took place just before the first missed period or just after the last one. The reaction is positive in cases of recent extruterine pregnancy but negative in old cases in which hematococci have formed and in clotting placental tissue is no longer present. The chief value of Abderhalden's method consists not in the diagnosis of pregnancy but in the study of the pathology of the internal secretions. For the latter study Mayer used the male and female germinal glands.

The serological behavior towards the female germinal glands with their great influence on the entire organism is of particular interest. We know of many diseases in which we suspect dysfunction

of the ovary. Mayer included in his investigations cases of climacteric neurasthenia, hysteria, metrorrhagia, dysmenorrhoea, amenorrhoea, myoma, etc., in which we often find macroscopically changed ovaries. The practical value of these investigations is shown by positive Abderhalden reaction towards the ovary in case of metrorrhagia and a case of amenorrhoea. This means that in these instances there was a dysfunction of the ovaries and the hemorrhage was oöborogenous. A treatment, which is the usual treatment for these cases, would hardly have been successful, as it attacks the endometrium and not the diseased ovary.

Pregnancy also shows interesting conditions. Diseases such as osteomalacia, vesicular mole, emesis, and, perhaps, eclampsia, are believed to be due to disturbances in the ovarian function, particularly of the corpora lutea. It is possible that the serum of diseased pregnant women may react differently toward the ovary or corpus luteum from that of pregnant women.

Schäfer, P. Abderhalden's Ferment Reaction (Fermentreaktion nach Abderhalden). *Deutsche Gesellschaft f. Gynäk. Halle*, p. 3, 11, 12.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

Schäfer examined one hundred and twenty-three cases with Abderhalden's dialysis method sixty-five of these also with the optical method sixty-two are pregnant and sixty-one were not. He found two incorrect diagnoses in the pregnant. Hematomata gave varying results. The non-pregnant he had eleven incorrect diagnoses, the greater number of which were found in cases of cardiomas and myomata. In twenty-three cases of tumors he had nine failures, and in thirty-eight cases of women with normal genitalia or senile atrophic genitalia he had two failures. With the optical method correct diagnosis was missed twice, a positive reaction having been obtained in a case of myoma and a negative reaction in case of normal pregnancy at the second month. Two cases of pregnancy and four cases of cervical cancer split off placental tissue as well as peptone-free cancer tissue.

Petri. The Specificity of the Placenta-Splitting Ferments of Pregnancy Serum (Über die Spezifität der gegen Placenta gerichteten Fermente des Schwangerschaftsserums). *Zentralbl. f. Gynäk.*, p. 3, 12, 13, 14.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

The history and development of Abderhalden's reaction is given in detail. To test the specificity of this reaction Petri attempted to determine whether the serum of pregnant women is capable of splitting albumin other than placental albumin, and whether placental albumin can be split by the serum of non-pregnant women. In both of his experiments he obtained negative results. The placenta was split only by the sera of two very anemic myoma patients, the serum of one patient with tubo-ovarian cyst, and that of one patient with

recurrent cancer of the breast. On the theory that, as a protoplasm foreign to the blood, the spirochetes that are contained in the blood of leucic patients could cause the formation of ferments, the author examined the sera of leucics. Only cases that had received treatment gave positive reactions. In explanation of this remarkable fact Peirl states that spirochetes which have not been injured are so powerfully viable that the organism is not able to form ferments against them until they have been weakened by mercury or salvarsan. RUKELMAN.

Decl. The F t and Cholesterol Content of the Blood in Pregnancy and the Puerperium in under Normal and Pathological Conditions (Sul contenuto in grasso colesterina del sangue delle gravide nelle puerpere in condizioni normali patologiche) *Ann. di ostetr. ginec.*, 9, 3, 1917, 218. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäcol.

The author examined the serum of 53 pregnant, puerperal, and normal women to determine the fat and cholesterol content of the blood in these conditions. Blood was obtained at the same hour each day 4 hours after meal, so as to exclude digestion lipemia. He found a slight increase during the first few months of pregnancy gradually increasing until the end. The same findings are present during labor and early puerperium as during the last months of pregnancy. No difference existed between primipara and multipara.

The cause of the accumulation of fatty substances the author attributes to a decrease in the lipolytic ferment, to general sluggishness of the processes of oxidation in the pregnant organism and to an increased assimilation of food. The increased activity of the organs of internal secretion, especially of the adrenal and corpus luteum may account for the production of leucithin and cholesterol. In eclampsia the fatty substances are particularly increased. The author considers the cholesterolemia a protection against the toxins of pregnancy. For figures and the method of procedure the reader is referred to the original.

SARON.

Fraenkel Internal Secretion and Pregnancy (Intern. Secretion und Schwangerschaft) *Deutsche Gynäcol. f. Gynäk.*, Halle, 9, 3, May. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäcol.

The antibodies which Fraenkel used in the treatment of osteomalacia are biological, not biochemical. They are the secretions of the other blood-forming glands which have become dormant in the serum of those castrated. Fraenkel did not find interstitial glands in the uterus walls in his far-reaching comparative examinations and they were not confirmed by anyone in the transactions of the Congress. However the reproductions of specimens made by Seitz and Wallart convinced him that it may occur. Their inconsistency however excludes specific function. 3. The claim that ovulation regularly occurs during the intermenstruum has been confirmed by Vilemin, John

Miller Robert Meyer Seitz and Schroeder. Seitz justly criticizes Fraenkel for making macroscopical examinations of living persons with healthy internal genitalia. However, this is better than all the other methods which make use of extirpated diseased genitalia, since the exact determination of the age of the corpus luteum cannot be made microscopically. 4. The corpus luteum law has not been doubted by anyone. Seitz and Landsberg confirm it, using entirely different methods.

Josephson C. D. The Proof of the Presence of Spermatozoa in the Cervical Canal in Two Cases of Rape Eighteen Hours after the Perpetration of the Crime (Spermatozoa parvade i cerv. kanal i två fall av våldtäkt 8 timmar efter brottet) *Allm. ners. Läkartidsn.*, Stockholm, 9, 3, 2, 215.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäcol.

The author describes two cases in which he was able to demonstrate the presence of spermatozoa in the cervical discharge eighteen hours after the perpetration of rape. None were found in the vagina. In one case the discharge was removed with a cotton swab on a metal applicator and spread on a glass slide. In the other it was obtained with a Braun syringe. Several applicators saturated with wood vinegar were then introduced into the uterine cavity to prevent conception if possible.

The author refers to the studies of Blum and Range in regard to the length of time that spermatozoa may survive in the vagina and uterus, and discusses the methods of examining for them in these organs. BYÖRNSTRÖM.

Wasmekro Placental Bacteremia (Placentare Bacteriämie) *Deutsche Gynäcol. f. Gynäk.*, Halle, 9, 3, May.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäcol.

The usual positive findings in the blood during febrile abortion have led the author to bacteriologically examine the blood of patients during pyrexia in the course of labor. In each case the examinations were systematically conducted as follows: 1. Removal of secretions from the uterine cavity before delivery. 2. Blood was obtained from the veins before and after delivery. 3. Bacterioscopic staining of microscopic sections from the placenta and its membrane.

Of the thirty cases examined the temperatures were always higher than 38.5° C. The blood tests, always made before delivery if high temperatures or rigors occurred, were positive in twenty-one, i.e., more or less numerous colonies of bacteria were demonstrated in the large glucose agar tubes. Infections were mostly mixed. The examination of the blood which was removed after delivery remained sterile with one exception. This patient died three days post-partum from sepsis. Another patient succumbed to tuberculosis which rapidly progressed during the puerperium. In all the other cases the fever subsided rapidly and the patients were discharged cured. Both blood examinations remained

case eleven days after a period was missed. The embryo was about twenty-one days old according to embryological data. The uterus was carefully opened and immediately preserved. A number of pictures were made. In the first picture was seen the anterior surface of the uterus with the groove opposite the egg capsule. In the second was seen the posterior surface with the flat ovum deeply embedded in the thickened mucous membrane. The ovum itself measured only 1 mm. In the third and fourth pictures the ovum was opened. One could see the broad villous space, the cavity and the embryo. The first microscopical picture showed the numerous dilated glandular spaces around them the compact layer and then the villous zone with the intervillous spaces. The villi were without vessels and the intervillous spaces were filled with cloudy albumen-like material. It was especially noticeable that although it was not a very young ovum nevertheless there was no blood in the intervillous spaces. It could, therefore, be concluded that blood is not normally found in the intervillous spaces so early in the human, and that nutrition must take place from the substance mentioned.

The extensive development of the mesodermal part of the villi was remarkable when the smallness of the embryo was considered. The embryo was connected to the chorion by means of the abdominal pedicle. The amniotic cavity was flat and surrounded the dorsal side of the embryo. The next picture showed the same parts but much enlarged and showed the still open medullary groove. From the bowel anlage a small protrusion was given off, the allantois. In the abdominal pedicle numerous vessels were observed. The next section passed through the middle of the body. Here again could be seen the small amniotic cavity. The yolk sac was represented by thin-walled lax much folded sac. Above the cord was found the closed spinal canal on both sides of it could be seen segmented somites on their side the somat plates with the coelomic fissure which was continued into the exocoelom.

In addition to the demonstration the author discussed the age of the embryo. A large number of young human embryos are now on hand. If these dated from definite phase of the ovulation and menstruation cycle, and if fecundation occurred only in a limited period of the vulvato cycle, then the different ova insofar as the relation to the last menstrual period is concerned, would make regular curve, presuming similar rate of growth for all. The author investigated the different reported ova according to size and age after the last menstrual period. He found that the facts so ascertained regarding them are spread out over a considerable space of time and that it is utterly impossible to plot curve. From this one can conclude that the age of the ovum may show considerable variation even though the interval after the last menstruation is the same. If one now considers the age according to embryological development it can be seen that

fecundation may occur at any time between two periods, but that the time when fecundation is most likely to occur is about a week before the first period missed. If the age is correct when judged according to embryological development, then the different ova ought to render a definite curve. That is indeed the case. The curve produced by the length of the embryo and of ova is almost identical with the above curve. From these curves the age of the embryo when judged according to development is approximately correct.

In regard to the absolute age of the ovum nothing definite can be stated in the human as the assumed latent period (in which no growth can be demonstrated) may be considerably shorter than supposed. From a study of the curves the author would rather believe that to be the case. If that is fact then all the known ova are considerably younger than they are supposed to be. This, however, may be ascertained later by further studies on animals, which can be accurately controlled.

Wagner O. A. Contributions to the Question as to the Origin of the Amniotic Fluid, with Pathological Anatomical, Experimental and Clinical Examinations of the Functions of the Fetal Kidneys (Beiträge zur Frage der Herkunft des Fruchtwassers mit pathologisch-anatomischen, experimentellen und klinischen Untersuchungen über die Funktion der fötalen Nieren). Leipzig and Vienna, Deuticke, 93.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

To date, the question as to whether normally the testes secrete urine in utero has not been answered. The author has attempted to solve the problem by pathological-anatomical, experimental, and clinical investigations. He concludes that the fetal kidney does not functionate under normal conditions and therefore does not take part in the formation of the amniotic fluid.

The report contains also detailed account of fetal malformations such as closure of the urethra, dilatation of the urinary bladder and hypoplasia of the kidney. It gives also description of the experiments undertaken to determine the function of the fetal kidneys, and the results of the examinations of the urine of the new-born. An extensive bibliography is appended.

ZAMENHOFER.

Böhltschenko, L. I. Blepharitis of the New-Born and Its Prevention (Blepharitis neonatorum und deren Verhütung). *Med. Rundschau* 93, 21, 349.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Examination was made of smears and cultures of the secretion from the eyes of new-born children affected with gonorrheal and non-gonorrheal diseases. The author is of the opinion that the conjunctiva of the new-born, especially in the first days of life, is comparatively more sensitive to all kinds of inflammatory diseases than the conjunctiva of adults. The causative factor of the severe eye in

inflammation is usually the gonococcus. Also at times this coccus may produce merely a slight catarrh. It is possible that more than one half of the blennorrhoeas are produced by streptococci, pneumococci, etc. There are also blennorrhoeas the biological causative factor of which cannot be determined. Intra-uterine blennorrhoeas usually result from dissemination of the infecting agents through high lacerations of the amniotic membranes.

The author gives statistics of the prophylactic treatment of gonorrhoea with different remedies and in conclusion reports his own experience. He prefers weak, non-irritating solutions as 5 per cent solutions of protargol as recommended by Ahlfeld, and especially a solution of sublimate 1:4000. He states that as the result of the regular disinfection of the hands of the attendants and the bodies of the parturient women with 1:4000 solution of sublimate, and of the eyes of the new-born with 1:5000 solution of sublimate the number of conjunctivitis was reduced from 0.3 per cent in 1904-1907 to 0.7 per cent in 1908-19. KERNST.

Nádory B. Simple Surgical Treatment of the Umbilical Stump (*Einfache chirurgische Veröpfung des Nabelstümpfes*). *Zentralbl. f. Gynäk.* 9 3, April 1905.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Gynäkol.

The method recommended by the author complies with the three requirements of Ahlfeld, i. e., that there be positive prevention of an infection, protection against secondary hemorrhages, and no necessity for after treatment. As soon as the pulsation of the umbilical cord ceases, the cord is tied tightly with a heavy silk ligature to the line of demarcation between the skin and Wharton's jelly. The cord is then cut short. The stump and umbilical ring are painted with tincture of iodine. The child can be bathed daily if an application of the tincture of iodine is made after the bath. The umbilical stump will fall off on the second or third day. The umbilical funnel heals rapidly. J. VOGT.

Freudenthal A New Procedure for the Enlargement of the Generally Contracted Pelvis (*Ein neuer Kunstgriff zur (amblyotischen) Erweiterung des Beckenraumes*). *Berklin. Wochenschr.* 9 3, 1905.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäkol.

The author reports his method of gaining more room in contracted pelvis. It is as follows: After rupture of the membranes, the entrance of the head is aided as follows: A roll is laid under patient's back, each knee is grasped by an assistant, (leg pointing outward) and during each pain it is brought closely to the median line of the abdomen even pressing against it. Labor is rapid and uneventful.

The explanation is as follows: On account of the passive fixation of the femur the gluteal muscles inserted on the trochanters are contracted in the effort to stretch out the legs, soles volens, and exert

outward traction on the ilia. Stretching of the sacro-spinous ligaments results, the promontory recedes and the antero-posterior diameter is increased.

WENZEL.

Von Hoytema, D. G. The Use of Pituitrin in Obstetrics (*Pituitrin in der Erleichterung der Geburt*). *Monatsh. f. Geburtsh. u. Gynäk.* 9 3, B. 1905.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäkol.

From his own practice and that of his colleagues the author has collected 83 hysterical cases in which pituitrin was employed. In 10 of these it was used for post partum hemorrhage in the remaining 73 as an echolic. In four cases no result was obtained, and in three they were doubtful. In 10 cases there was a moderate, and in 50 cases, definite increase in the contractions. In 7 instances it caused powerful contractions. Of the 77 children delivered, 7 were slightly asphyxiated and 7 were dead. Of the latter 3 were dead before the beginning of labor. STRAUSS.

Rowland Pituitary Extract in Obstetrics. *Medical J.* 9 3, April 6. By Surg., Gynec. & Obst.

In this article the author illustrates the effect of pituitary extract in the induction of labor, the treatment of abortion, and its effect on cases in first and second stages of labor. Four case reports illustrate the induction of labor and treatment of abortion.

Concerning the use of pituitrin in the first and second stages of labor the author cites twenty-one cases in which the drug was used. In these cases the external os was for the most part slightly dilated and the indication for the use of the drug was ineffectual pains.

In this series Rowland gives four tables of pains, pulse, and blood-pressure to show the relationship of one to the other. In one or two cases the pituitary extract seemed to have no effect, but in the majority of cases pains were increased and labor hastened. In only two of the cases was the fetus asphyxiated or in any way harmed, one was forceps delivery and the other was also forceps delivery in an eclamptic after convulsion, in which instance the child was born dead.

The author states that he got satisfactory results in all cases where there was some dilatation of the cervix or where the head was engaged. In two cases pituitrin was successful in single dose after an attempt at forceps delivery had failed. Also whenever the head is on the perineum the delivery is always prompt.

Conclusions. Pituitrin is efficient to finish abortion and to induce labor in conjunction with other means. It usually causes advancement of the head with the cervix half dilated. 3. It is most successfully used in the last half of the second stage of labor to save delivery by forceps. 4. It probably causes no danger to the child. 5. It should not be used in toxic conditions with high blood-pressure.

EUGENE CART.

Heaney N. S. A Contribution to the Study of Pituitrin. *Surg. Gynec. & Obst.*, 9: 3, xvii, 1913.
By Surg. Gynec. & Obst.

This article is the result of clinical and laboratory investigation into the physiological effects of pituitrin. It is divided into two parts, the first taking up the effects of pituitrin upon the normal and elevated blood pressures of human beings, and the remaining part the effects of pituitrin upon the lactating mammary glands.

Heaney finds that the effect of pituitrin upon the circulation are directly dependent upon the route of administration. When given intravenously it produces an immediate and profound distention, a marked increase in blood-pressure of from 20 to 60 mm., and lowering of the pulse of from 10 to 30 beats per minute, this being accompanied by marked systematic effects, pallor, great anxiety and symptoms resembling collapse. The distention is of brief duration, but is severe during the first 4 minutes that it lasts.

Given by intramuscular injection, pituitrin influences the circulation only occasionally and then but slightly. The subcutaneous administration has no pressure effects.

Because of the possibility that an unrecognizable circulatory disturbance may contraindicate a sudden rise of blood pressure, Heaney advises giving pituitrin intravenously only in grave emergencies, such as severe post partum hemorrhage. The subcutaneous method should be the routine procedure, care being taken to avoid puncturing a blood-vessel and introducing this powerful substance into the blood stream.

In his inquiry into the asserted galactogenic action of pituitrin upon human beings and animals, Heaney was unable to demonstrate clinically that the extract has any effect. He thought that the secretion of milk observed by the original experimenters, which occurred immediately upon the intravenous injection of the hypophysis, might be another expression of the already well known effects of this substance on the smooth muscle fibres of the body. In these instances it showed its action on the breast muscle bundles, which by their contraction produced a squeezing-out of the milk contained in the breast. Heaney repeated his animal experiments upon human beings, using an instrument to measure the contraction of the breast instead of cannula inserted into the nipple. Every observation he obtained definite evidence that the breast contracted measurably when the patient received pituitrin intravenously. The knowledge that the breast contracts as a result of this medication, together with the negative clinical results obtained when he tried to increase the milk supply in mothers with failing lactation, leads him to conclude that the

results of the earlier workers in this field were wrong, by interpreted, that the stimulus which extracts of the hypophysis seems to give to the milk-flow is really an assertion of the effect that this substance has on all smooth muscle fibers.

Vortsch-van Vloten Statistics of Chinese Polidinic (Statistik über chinesischen Polidinic) *Arch. f. Schiffs- u. Tropen Hyg.*, 9: 3, xvii, 1913.
By Zentralbl. f. d. ges. Hyg. Gaborstah. d. Grenzgeb.

The author was consulted 16,000 times by 5,500 Chinese during 1909-10 when he conducted the hospital Yi An in the central part of the province of Canton. Over 3,600 case histories are available. Her only the obstetric and gynecological material is discussed. Four cases of birth anomalies occurred, three of puerperal fever, 14 of menstrual anomalies, 1 of disturbances during pregnancy, 8 of mammary abscesses and tumors, 4 cases of vaginal and uterine catarrh, of vaginal prolapse and one of ovarian tumor.

The following operations were performed: colporrhaphy, bladder-stone, extirpation of a cancerous vulva. The female residents of that district avoid the devil's doctor—a European midwife has never been called to a confinement among them. In another district three or four days distant however she is called quite commonly. Female children are of little consequence in China; they are frequently killed after birth, or if later they prove weaklings, are starved. The care of the umbilical stump is bad, the cord is not dressed, even after the stump falls off. If suppuration sets in, chewed leaves are applied. If hemorrhage occurs, tobacco or earth are put on so that tetanus commonly results. In spite of continuous nursing for two to three years the infant mortality is high, as the children are given everything else in addition.

In cases of pathological labor the author was always called too late. The Chinese women cannot believe that European physicians have learned the obstetrical art. Labor is usually easy; the hips are well developed under the loose mode of dress. Midwives are rare; usually mothers-in-law or neighbors render the necessary aids without any aspersion. If the labor is prolonged internal and external massage is resorted to. The after-birth is removed by traction on the cord or by manual extraction. Labor and puerperium are frequently surrounded by superstition and idolatry.

Among the Europeans there were many menorrhagias and abortions during the first or the third month, probably induced by a latent malaria. Labor in Europeans were usually normal.

The author presents literature in regard to Chinese physicians and their methods of treatment.

VON MULLER.

GENITO-URINARY SURGERY

KIDNEY AND URETER

De Berns Lagarde and De Bes fond. The Suprarenal Capsules in Cancer of the Kidney (Les capsules surréniales dans le cancer du rein) *Arch. vol. cin de Vacher* 19 3, 4, 72.

By Journal de Chirurgie.

Taking up in detail a discussion which was started before the French association for the study of cancer the authors state that nothing authorizes systematic ablation of the suprarenal capsule in the course of nephrectomy for cancer such as was once recommended by Grégoire.

After a detailed anatomical study of the blood vessels and the lymphatics of the suprarenal, they point out the theoretical dangers of unilateral suprarenectomy as long as our means for investigating the functional value of these glands in specific cases and especially the independent value of each one of them, remain unequal. In the anatomopathological chapter they show how rare and often vague are the observations that are published concerning the condition of the suprarenals in the course of cancer of the kidney. By means of letter written to them personally they prove that Israel did not recommend ablation of the suprarenal in the course of nephrectomy for cancer as he is quoted as having done. They then describe seven hitherto unpublished studies of the suprarenals in cases of cancer of the kidney. Three of these belonged to Leguen and four were mine. Their conclusions are as follow. Of the thirty-seven observations which mention was made of the suprarenal capsules, no information as to their condition was given in four cases. In eighteen cases the suprarenals were intact and in fifteen cases they were neoplastic. In eleven of the fifteen cases in which the suprarenals had been invaded there were accompanying metastases in the lungs, the liver, the bones, and the nervous system and in two of these the suprarenal metastasis was located on the side opposite to the cancer of the kidney. Therefore the disease of the suprarenal may be considered regular metastasis, sign of generalization. The systematic ablation of the suprarenal in the course of nephrectomy for neoplasm is not recommended.

MAURICE CHEVREUIL.

Krotoszyner. On the Differential Diagnosis of Appendicitis and Nephrolithiasis. *Cal. St. J. Med.* 9 3, 21, 227. By Surg., Gynec. & Obst.

The author reported case of an apparent right sided nephrolithiasis, which proved to be an appendicitis with several fecal concretions.

The diagnosis was made from pain, micturition

agonizing in character. The urine was cloudy with abundant pus microscopically; mensoscopy showed no urine from the right side, while the right ureteral catheter met an obstruction 5 cm. from the vesical outlet. Chromocystoscopy showed no color from that side within an hour. Radiography showed apparently normal kidney shadows on both sides, with two small well-defined shadows on the right side of the spinal column at the site of the ureteral impingement and apparently in the course of the ureter as ascertained by shadow-cutting ureteral catheter.

On operation the right ureter was found embedded in dense adhesions, and in the attempt to free them the peritoneum was opened and a long and tortuous appendix was found as part of the adhesions upward and downward to a point near the insertion of the bladder.

Since the operation, no urine can be obtained from the right side and the obstruction is still present at the same site, but as the patient suffers no discomfort she refuses further interference.

LOUIS GROSS.

Ghorvysch. A Study of the Mechanical Obstruction of the Circulation of the Kidney Produced by Experimental Acute Toxic Nephropathy. *J. Exp. Med.* 9 3, 220, 221.

By Surg., Gynec. & Obst.

In study of the influence of disease on the circulation of various organs, as shown by the perfusion method, Ghorvysch came to the following conclusions as regards the kidney. Blood serum is the most satisfactory fluid available. There is some impediment to the circulation of serum through kidneys in which nephropathy has been produced by arsenum nitrate, potassium chromate, potassium arsenate, cantharidin, and diphtheria toxin. The histological changes in the cells of these kidneys — swelling of the epithelium and changes in the glomeruli — are such as could produce obstruction. The circulatory obstruction is greatest in those kidneys in which the above changes are most marked. In the kidneys in which the drug has caused destruction of the cells the impediment is less marked than in those in which the cells are swollen but otherwise intact.

The impediment to the flow of perfusing serum is in direct relation to the anatomical obstructive lesion, and tends toward normal with the cessation or healing of the process. Bacteria, though present in large numbers, impede but little the flow through the kidney. Rabbits may have spontaneous nephropathy and show no casts or albumen. A certain amount of obstruction is noted in these cases.

JAMES F. CRITCHFIELD.

Payn and Macnider: An Experimental Study of Unilateral Hematuria of the So-Called Eosinophilic Type. *Surg. Gynec. & Obst.* 93, 271, 93.
By Surg. Grace & Obst.

Payn and Macnider review the literature on this subject and report five cases of unilateral hematuria of the so-called eosinophilic type which are relieved of all symptoms by nephrectomy. The authors are inclined to believe that the majority of these cases the etiology is not a chronic inflammation of the pelvis or another. A series of experiments was conducted for the purpose of excluding certain entirely developing anastomoses as being the principal cause for the occurrence of blood in the urine.

The experiments can be divided into three groups: (1) Those in which it was attempted to induce hematuria by interference with the autonomic nervous mechanism of the kidney. (2) Those in which hematuria was attempted by the introduction of nephrotomy or ablation of the renal artery which had special affinity for the vascular element of the kidney. (3) Those in which the blood supply to the kidney was interfered with by occluding the renal artery by the use of a clamp. These experiments could therefore practically contradict Klemperer's theory that agnathous edema, and also Albarran's idea that slight basis of nephritis, is sufficient cause of the unilateral hematuria. Finally it seems most probable since acute nephritis can be eliminated that the clinical condition is chronic nephritis one in which there is rupture of glomerular capillaries and the bleeding kept up by the high local pressure so constant found in chronic nephritis.

Newman, D. Renal Varix and Hyperemia as Causes of Symptomatic Renal Hematuria. *Brit. J. Surg.* 93, 44. By Surg. Grace & Obst.

The author states that there is always a cause for symptomatic renal hematuria. This article deals with two of the more obscure causes, namely renal varix and renal hyperemia. The only symptom of both these conditions is painless hematuria. The fact that the blood comes from the kidney is established by means of the cystoscope. As a rule, rest has little effect upon the hemorrhage from renal varix but it may temporarily stop the hemorrhage from renal hyperemia.

If in the treatment of these cases the bleeding does not respond to rest the kidney should be exposed and its position examined. Any pressure or distortion of the renal vein should be removed and the kidney anchored in such a position that rest or pressure cannot recur. If the kidney position seems normal, the kidney should be split, and the papillae carefully examined for varices. Any varices found should be removed either by cauterization, or by cutting away the papillae.

Sometimes it is impossible by operation to find the source of the hemorrhage and even after the kidney is split the bleeding may continue. If the hemorrhage

is severe and the patient is getting weak, the kidney should be removed.

The technique recommended for splitting the kidney is to pass a silver wire, threaded upon a hypodermic needle, into the pelvis of the kidney and out again. The wire should then be drawn through the kidney substance with a sawing motion. V. L. LUTHER.

Israel W. Pyelotomy (Zur Pyelotomie). *Zentralbl. Chir.* 93, 524.
By Zentralbl. f. d. ges. Chir. I. Grenke.

In Israel's clinic pyelotomy is given the preference over nephrotomy. In 1907 in forty-two consecutive operations for renal calculus nephrotomy had been performed eighteen times during the past three and a quarter years. The author emphasizes the importance of good X-ray pictures. In pyelotomy drainage was employed only when there was much sand or gravel present and then only with a view to later pelvic irrigation. The pelvic wound healed without the formation of fistula even when it was not possible to suture it exactly. The peripelvic fat was carefully sutured in all cases. SCHNEIDER.

Corbett, P. J. A Form of Experimental Nephritis. *Can. J. Med. Sci.* 913, 274, 93.
By Surg. Grace & Obst.

The author divides his studies into three groups. In the first group he describes the condition of kidneys after the ureter has been tied for twenty-four hours as days and twenty-five days. The twenty-four hour kidney he found to be larger and heavier than normal. It presented a mottled appearance upon section. The convoluted tubules might have a dilated lumen, a compressed epithelium often showing obliteration, and degeneration or necrosis of the epithelial cells. The blood vessels were dilated. The six-day kidney was pale, edematous, and increased in size. There was deformity of the tubules and round-celled infiltration. The twenty-five day kidney as white in color and presented a picture of extreme hydronephrosis. The tubules were dilated, the epithelium deformed, and fat changes were noted in the epithelium. The epithelial cells were pigmented.

In the second group Corbett assembles those kidneys in which there had occurred marked fat changes accompanied by a deformity of the tubules but with very little cell necrosis or degeneration and comparatively little interstitial change. In the kidneys he found that fatty degeneration began in the twenty-four hour kidneys and extended throughout the whole series in a large per cent of the cases.

In the third group the author cites only one case. This was as follows: The cross section showed great deal of edema and in one place an infarct. Cultures from the tissue were sterile. The area remote from the infarct the microscopical picture showed so much edema that some of the tubules seem to be actually compressed. The cells of the tubules appeared swollen and abnormal. The pictures suggested potential atrophy. Aside from

this example of primary atrophy no other was encountered.

Corbett's conclusions are as follows: The histological picture resulting from trauma of the ureter may belong to any one of the following groups: (1) picture closely resembling nephritis; (2) picture of fatty change; (3) picture presenting edema; (4) possible suggestion of trophic. There is no definite proof to show that the changes are mechanical or of a nephrotic substance. A. C. STOKES

Possion, A. Indications for Operation in Chronic Nephritis (*Indications opératoires dans les néphrites chroniques*). *J. d'ur.* 1916, 7. By *Journal de Chirurgie*

The therapy of chronic nephritis is purely symptomatic and the frequent impotency of medical treatment has caused surgeons to attempt to restrict the spread of the trouble and to remove mechanical obstruction to function to overcome the effect of stagnation on the kidney with its inelastic capsule decapsulation and nephrectomy have been performed. Both operations reduce the intrarenal tension. The second, by the abundant hemorrhage that it causes, relieves the system of part of its toxins that have accumulated in the blood and thus lessens the vascular tension. It also terminates the capillary paralysis such as preventing serous transudation. This operation should be used in the less serious cases nephrotoxic when there is serious uremia, interstitial subcutaneous edema, oliguria, anasarca, and high blood pressure. The mortality of operation is only 1 per cent. The danger is least in cases of edema alone is greater in cases of uremia either alone or associated with edema and in oliguria and is greatest in cases of uremia associated with oliguria about edema. From the point of view of permanent relief the results are best in cases of edema alone or of edema associated with uremia or oliguria. Next best are those obtained in cases of uncomplicated uremia. Third best are the results obtained in cases of uremia complicated by oliguria, and fourth, those obtained in cases of uremia associated with oliguria and edema.

Indications and contra-indications for operating: 1. Urinary syndrome. This syndrome the most constant of all, consists in quantitatively and qualitatively changes in the urine and the presence in the urine of floating cylindrical casts, leucocytes and red blood corpuscles. Persistent oliguria and diminished ash content are indications for operation. The amount of albumin is not an indication.

2. Cholestatic syndrome. The indications vary according to whether the droopy is located in the subcutaneous cellular tissue, the large serous cavities, or the viscera. Anasarca is an indication and is not a contra-indication, but hydropericardium and hydrothorax and edema of the lung increase the operative risk.

3. Cardio-vascular syndrome. Myocarditis with dilation of the heart hypertrophy of the left side

of the heart with a violent beat of the pericardium and gallop rhythm are contra-indications, as is also Bright's pericarditis. Hypertension of the arteries accompanied by true hypertrophy of the heart is an indication.

Functional troubles of vision due to a slight intoxication with encephalic nerve centers may be helped by operation but changes in the optic nerve and retina cannot. J. T. STOKES

Miyah, W. M. The Surgical Treatment of Chronic Nephritis, Hematuria and Dolorosa (*Die chirurgischen Operationen über die chronische Nephritis, Hämaturie und Dolorosa*). *Chir. arch. J. d'ur.* 1916, 7. By *Zentralblatt für die Chirurgie*

In the picture of nephritis new factors must be taken into consideration as the result of the newer diagnostic methods, cystoscopy, ureteral catheterization, functional diagnosis. These new methods have shown that nephritis may be unilateral, that the involvement of the organ may be only partial, that a nephritic kidney may excrete urine free of albumin and casts, and that there are forms of nephritis which are manifested principally by pain (dolor nephritis) and by hemorrhage (nephritis haematosa). The three interesting observations of the author belong to the last group.

Miyah had three cases of nephritis haematosa and one case of dolor nephritis or so called nephritis dolorosa. The first case of haematuric nephritis was that of a man 43 years of age. On the basis of the pains and findings of careful cystoscopic examination, and of functional tests, a diagnosis of a berulosis of the kidney was made. A nephrectomy proved this diagnosis to be incorrect. On careful examination the organ was found to be affected only by chronic nephritis with numerous hemorrhages into the straight urinary tubules. The patient recovered. The second case the patient a woman 55 years of age suffering with edema. Blood was found in the urine. A cystoscopic examination also showed that the ureter from which the blood escaped was normal. On the basis of this and other examinations diagnosis of operative nephritis haematosa of the right kidney was made. The operation confirmed the diagnosis and decapsulation as performed according to the method of Albarran. Complete recovery resulted.

The history of haematuric nephritis is associated with the names of Israel, Albarran, and Possion. The diagnosis of this disease is contingent upon the elimination of all other conditions that are accompanied by hemorrhage from the kidney. It should be treated by decapsulation and nephrectomy. According to the statistics of Possion published in 1909 there were no deaths in 6 cases of decapsulation, and four deaths in 4 cases of nephrectomy. The removal of the kidney is indicated only in severe attacks.

The third case was that of a man 35 years of age who suffered from colicky pains. The pains could

be induced also by introducing fluid into the pelvis of the kidney. The trouble was diagnosed as nephritis dolorosa. Calculus, tuberculosis, pyelitis, etc. were excluded by the absence of pathological elements in the urine and by negative X-ray findings. At the operation the kidney was decapsulated and a small piece of kidney tissue was removed for microscopic examination. The patient recovered and was free from further attacks of pain. Microscopic examination showed changes similar to those of severe chronic nephritis. The case, therefore, was the kind of nephritis that is manifested only by colicky pains. This form is seldom observed. Fournier found records of only 4 cases of it in the literature and Kimmell has observed only 3 cases.

Rege. Th. Present Standpoint in Regard to Nephritis and Nephritic Surgery (Über den derzeitigen Stand unserer Nephritisfragen und der Nephritischirurgie). *J. prakt. Chir. Orthop.* 9, 3, vi, 563. B. 7. Jahrb. d. d. Chir. Grenzgeb.

Albumen in the urine may sometimes be demonstrated in the urine of perfectly healthy individuals after severe bodily exertion and must be considered as physiological depending, according to La Bague, upon hyperemia of the renal pelvis. Orthostatic and lordotic albuminuria, the pure forms are relatively benign and are probably due to mechanical disturbances and stasis of the renal circulation. By means of powerful massage of the kidney the excretion of albumen, cast epithelium, and red blood cells may be produced. The disturbances incident to wandering kidneys must likewise be considered as traumatic nephritis. On the other hand, operative findings have proven the interesting fact that even the absence of urinary findings definite nephritic processes may exist in the kidney excluding the well-known cases of atrophic kidney with intervals of no albumen. The first symptoms of such nephritis without albumen are frequently nephralgia and hematuria. The opinion presented seems to be that such hematurias are due either to chronic nephritis which is usually bilateral or to acute nephritis or partial nephritis is possible but rare.

Action of decapsulation. Acute and infectious nephritis also is injury and swelling of the vessel-bearing connective tissue followed by inflammation and degeneration of the epithelium. The swollen and enlarged kidney is compressed within its unyielding fibrous capsule the circulation and excretion of urine is interfered with. Decapsulation relieves the tension, and even after complete anuria a marked excretion of urine will follow the operation in cases of acute nephritis. Tissue that has been destroyed of course cannot be replaced as regeneration of kidney epithelium does not occur but injured cells will frequently recover after the decapsulation. Edebohls believes that collateral circulation is established between the cortex and the surrounding tissue and that this is particularly marked if the kidney is embedded in mesentery. Other writers

deny this and claim that a new dense capsule again develops.

In toxic nephritis, such as that following poisoning with carbolic acid or bichloride of mercury, the kidney should be decapsulated especially if internal remedies fail. The kidney of eclampsia should be decapsulated in case no improvement follows the emptying of the uterus. In cases of acute nephritis following infectious diseases the kidney likewise should be decapsulated in case internal remedies do not improve the oliguria or the uræmic symptoms. Acute infectious nephritis is of hæmatogenous origin and can usually be differentiated from the ascending pyonephritis. It is usually unilateral and demands a nephrectomy or nephrectomy following ureteral catheterization. In chronic Bright's disease decapsulation has been performed in cases in which no improvement followed a thorough course of treatment. The decapsulation should be bilateral. In a fair percentage of cases clinical improvement results. Decapsulation is followed by improvement in certain cases of remittent nephritis, uria or oliguria. Severe hæmorrhages in cases of chronic nephritis not improved by internal therapy should be treated surgically. In addition to the decapsulation, nephrectomy should be done to make sure of the etiologic cause of the bleeding. Decapsulation and splitting of the kidney should be performed also for nephralgia in which hæmorrhages similar to those of chronic nephritis occur.

CONCLUSIONS.

Murard. Chronic Nephritides from the Surgical Viewpoint (Les néphrites chroniques, point de vue chirurgical). *Thèse de doc.*, Lyon, p. 3. May. By Journal de Chirurgie.

The author has tried to ascertain from the study of the literature and his own experience the rôle of surgery in chronic nephritides, both Bright's disease and the other renal sclerosis characterized by a pain and hæmaturia. The benefit of kidney operations in cases of hæmaturia was discovered by accident and it was thought that even Bright's disease might be cured by surgery.

The author finds that renal intervention is at least innocuous. In the unilateral cases, suppurative and tuberculous kidneys and kidney stone cases, in which the trouble in the other kidney is compensatory surgery is undoubtedly of great value. Decapsulation has been tried with some success. A capsule is rapidly reformed and there are not enough anastomosing blood vessels to have any effect on the drainage of the kidney. Nephroepioplasty is not more efficacious. Nephrectomy which is sometimes followed by complete cessation of albuminuria is an important operation.

Murard describes the hæmaturias for which there is no demonstrable cause as hæmaturias of latent nephritis. These are in some cases due to a tuberculous or a derangement of function in the hæmatopoietic organs, especially the liver. In these cases decapsulation is not sufficient and nephrectomy is

often only temporary. Renal tumors and continuous hemorrhage are contra indications.

Painful nephritis without nephropooids or renal tuberculosis is more rare than is generally believed. The pain may be due to perinephritis or Bright's disease or an active localized scleroid accompanied by inflammatory congestion following renal calculi or attenuated infection. For this condition freeing of perirenal adhesions and decapsulation, or if there is congestion, nephrectomy is advised.

Operative treatment of Bright's disease is now justifiable only by the importance of medical methods. Nephrectomy may help if there is congestion but as congestion is but a symptom and not cause of the nephritis it is really of no avail.

G. CORRE.

Bismuth. Th. Physiology of the Kidneys and the Functional Diagnosis of the Kidney in Renal Surgery and Internal Medicine (Nierenphysiologie und funktionelle Nierendiagnostik im Dienst der Nierenchirurgie und der inneren Klinik). Leipzig and Vienna, Deuticke, 1913.

By Zentralblatt für das Chir. u. Gynäkol.

The principal function of the kidney is to maintain for the blood the same osmotic pressure that corresponds to the freezing point of the blood — 0.50.

The osmo-regulating action of the kidney consists of several individual functions chief of which is water filtration, salt secretion, and resorption of some of the water and some of the salt. The urine is a watery solution of organic and inorganic salts and a part of products of metabolism and a part of waste which cannot be utilized by the organism. It is the function of the kidney to prevent accumulation of these salts in the blood which could lead to uræmia.

Urea and oxalic acid are excreted as follows. The glomeruli are filters with extensive semipermeable membranes by means of which the blood gets rid of its superfluous water. It is assumed that also at the same time small quantity of salts are filtered out. The urine in the glomeruli is alkaline. In the convoluted tubules of the first and second order through active cellular activity urinary salts are secreted. Uric acid, acid salts and phosphates, which are excreted by the tubular epithelium, render the glomerular filtrate acid. In the medulla of the kidney (in the region of Henle's loops and the straight urinary tubules) some of the water and some of the salts are reabsorbed. In addition to its principal function of maintaining the normal osmotic pressure of the blood, the kidney possesses synthetic functions, such as the secretion of sugar after the injection of phloridzin. It is supposed also that it elaborates an internal secretion. Although careful examinations have shown that both healthy kidneys do not always excrete the same amount of substances of absolutely the same character this fact does not decrease the value of the functional tests. In performing functional tests on both individual function of the kidney should be tested separately: water filtra-

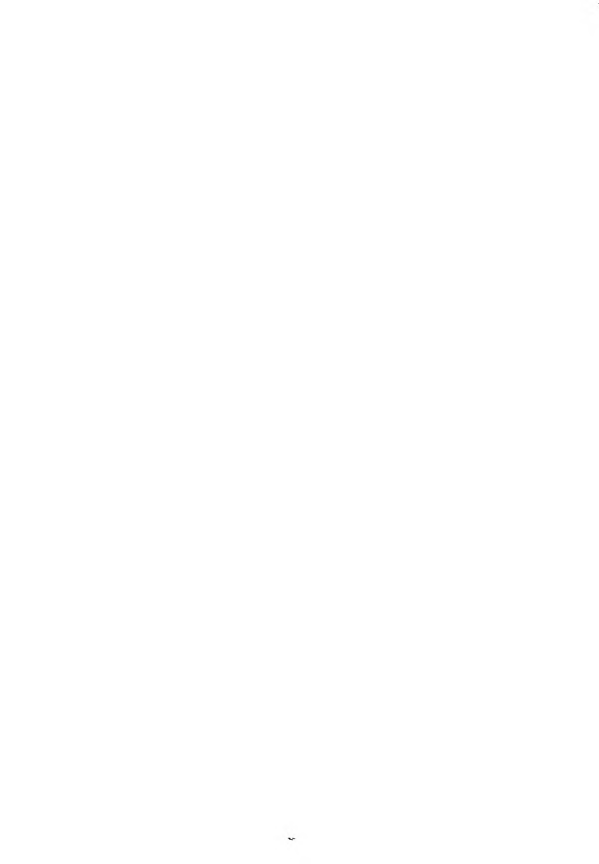
tion, salt excretion, and water resorption. The so-called topical diagnosis should be made.

Former methods led only to an anatomical diagnosis of the kidney trouble, and only the total insufficiency could be determined from the œdema, uræmia, cardiac hypertrophy etc. To-day by means of ureteral catheterization and functional diagnosis the sufficiency and insufficiency of each individual kidney can be determined exactly. Of the methods of functional diagnosis Boas's test for the toxicity of the urine and Thudicum's determination of the urinary coloring matter are not of use clinically. On the other hand cryoscopy for the determination of the molecular concentration of the blood and urine according to the method of von Koranyi is of great value. The freezing point of the urine varies even in healthy kidneys to a considerable degree, according to Kilmnell and Rumpel, between — 0.50 and — 0.70.

Cryoscopy is of particular value because it permits a comparison between the separated urines, and because it can be used in experimental polyuria. Blood cryoscopy is of considerable value in determining the function of the kidney. In normal kidneys the concentration of the blood is constant the freezing point according to von Koranyi is always — 0.50. According to Kilmnell the freezing point of the blood is of considerable value in the prognosis of nephrectomy in cases of unilateral kidney disease. In combination with other functional tests and clinical observations blood cryoscopy is many instances may be the deciding factor. It is easily possible however that it is — 0.50 and we could not dare, therefore, to perform a nephrectomy. If for instance the halves of both kidneys are diseased and both kidneys were just sufficient to carry on the necessary kidney function blood cryoscopy would yield normal values. A nephrectomy could thus case produce renal insufficiency. Ureteral catheterization, however, could prevent such an error. By means of blood cryoscopy can measure the osmo-regulating function of both kidneys with exactness.

Albarran's experimental polyuria measures the power of the kidneys to excrete water. Healthy kidneys adapt themselves to increased demand. In artificial polyuria the healthy kidney changes and increases its functional capacity, whereas the injured organ as the result of lack of reserve strength has lost this power either entirely or in part. Another method of testing the functioning of the kidney is to test the excretion of coloring substances that have been injected. The methylene blue of Kauter forms colorless derivatives in the body and is therefore not practical. The indigo-carmin test of Volcker and Joseph is excellent, the coloring matter passing through the kidney almost unchanged and acting similar to urinary salt. The nature of the excretion therefore allows us to form conclusions in regard to the salt-secreting ability of the kidney.

The indigo-carmin test is of great significance in unilateral lesions, delayed excretion of the



BLADDER, URETHRA, AND PENIS

Barney. A Case Illustrating the Efficiency of the High Frequency Current in the Treatment of Tumors of the Bladder. *Boston M. & S. J.* 1913, chiv. p.
By Surg., Gynec. & Obst.

The writer reports a case of apparently complete cure of a tumor of the bladder by means of the high frequency current. Cure was effected in nine sittings at intervals of one or two weeks. Owing to the appearance of the bladder wall at the site of the tumor at the last sitting, it was believed that the growth was cancerous. Suprapubic cystotomy showed the suspected area to be reddened, edematous, and brawny with a few small ulcerations and a generally rough surface. Careful study of the excised specimen by two competent pathologists failed to find any tumor cells. Cystoscopic examination of the patient nine months later showed no evidence of recurrence.

I regard the misleading appearance of the bladder wall the writer quotes Keyes Jr. who says:

It is a curious reaction of the bladder wall to the irritation of the current. The mucosa swells up in such a way as to simulate an infiltrating carcinoma. Several weeks intermission in the burning suffices for the subsidence of this.

So far as is known, no other case of bladder tumor treated and presumably cured by the high frequency current has yet been actually inspected at subsequent time either at operation or post-mortem. This method of treatment is, therefore, in certain cases of non-malignant growth, entirely effective.

Stevens. Diagnosis and Treatment of Multiple Urethral Calculi, with Report of Unusual Case. *J. Am. M. Ass.* 9 2, 102, 86.
By Surg., Gynec. & Obst.

The author reports one case of multiple urethral calculi. After demonstrating the absence of stones from the kidneys, ureters, bladder and prostate, and the normal condition of the kidneys, he concludes that the stones had formed in the urethra. He removed all by intra-urethral instrumentation.

In discussing this condition Stevens draws distinction between calculi originating elsewhere in the urinary tract than the urethra and simply lodging there while being passed and those which form there primarily. The latter are caused by the deposition of urinary salts in abnormal pockets, such as are formed by strictures and diverticula.

GEORGE G. STONE.

Jordan. Congenital Stricture of the Prostatic Urethra with Bladder Hyperplasia, Urethral Diverticulum and Multiple Abscesses of Both Kidneys. *J. Am. M. Ass.* 9 2, 102, 444.
By Surg., Gynec. & Obst.

The author reported a congenital prostatic stricture, which is exceedingly rare. The treatment proved unsuccessful; his patient died at the age of seven weeks, having been under observation three weeks. The post-mortem examination showed

stricture of the prostatic urethra, one fourth inch in length. The kidneys were enlarged, cystic, nodular and showed a chronic diffuse nephritis. The ureters were large and sacculated. The bladder was small, the walls being composed of dense fibrous tissue.

C. D. FRANKLIN.

GENITAL ORGANS

Belfrage. The atrophic Tissue Loss of Skin of the Male Sexual Organs (Evident after total gonadectomy). *Neur. med. Arch.* 9 2, 117, 11.
By Zentralbl. f. d. ges. Chir. 1. Göttingen.

Belfrage reports a case in which through transection there was loss of the entire cutaneous covering of the penis and scrotum. The penis is covered with Thiersch grafts from the forearm, and the testicles were transplanted beneath the skin of the abdominal wall. The result was quite satisfactory. The transplanted skin of the penis was freely movable. The testicles were not fixed under their cutaneous covering and not exposed to pressure, so that there was no interference with the sexual functions.

The author discusses the methods employed by others in similar cases and concludes that the Thiersch graft is the proper procedure for covering the penis. Where there is entire loss of scrotal skin the Thiersch method may be used, or the neighboring skin may be utilized as plastic flap, or lastly the author's method of transplanting the testis may be employed.

DORRIS.

Carlson, A. A Case of Perineo-Scrotal Dermoid Cysts. *Bull. J. Surg.* 9 2, 4, 39.
By Surg., Gynec. & Obst.

Examination in the case of a boy years of age revealed subcutaneous swellings in the perineum which had been present since birth and were slightly increasing in size. One of them was situated in the posterior part of the scrotum and the other at the anterior extremity of the perineum. Extending backwards from behind the two swellings was narrow median intradermic passage or track which reached as far as the anal margin. A stream of the cyst contents could be seen rippling along the passage in the perineal raphe. Rectal examination was negative. The penis and urethra were normal. The diagnosis made was perineal dermoids with extension backwards along the raphe. The cysts and the narrow perineal canal are removed by dissection with satisfactory result.

The interest in the case lies mainly in the existence of the perineal tube.

In this connection the author cites somewhat similar case reported by Edington of Glasgow. The patient, but two days old, with an imperforate anus, had perineal tube that communicated with the bowel.

The author believes that pathological conditions of this kind are the result of an error in the development of the external genital folds. DORRIS.

Ectopia testis is subject to inflammation which, particularly the penneum may be either traumatic or infectious. Inflammation in the penneum may lead to an abscess or necrosis. When ectopia testis is associated with hernia, operation is advisable particularly for the hernia. The testis may become the site of carcinoma.

Stevens, A. R. On the Value of Catheterization by the High Frequency Current in Certain Cases of Prostatic Obstruction. *V. F. M. J.* 3, second, 70. By Surg. C. J. MacCormack.

Stevens reports 1 case in which he successfully applied Beer's suggestion of catheterizing by the high frequency current for the relief of prostatic obstruction.

One case of carcinoma of the esophageal neck, thirty-two ounces of residual urine and most malodorous as cauterized six tumors by means of the Oudin current for total fifteen minutes. The residual urine as reduced to one and half ounces. In case of midline lobe prostatic obstruction, the fourteen ounces of residual urine, the Oudin current applied six times for total of nine and one half minutes. The residual urine reduced to a half ounce. The treatment were tolerated so well that no anesthetic was used. Morvay or they did not interfere with the patient's business and were not followed by pain or serious bleeding.

Cauterization by high frequency current is not suitable for large prostates but will probably prove efficient for constriction of the esophageal neck and for median lobe or lobes and single lobes that project into the bladder, return from other portions of the prostate. J. B. CARNETT.

Gebel, Carcinoma of the Prostate (Über das Prostatacarcinom). *Zentralbl. f. d. Gesamte Med. u. Chir.* 9, 5, 379. By Zentralbl. f. d. ges. Chir. I. G. Georgeb.

Carcinoma of the prostate is relatively frequent disease. Microscopically, carcinomatous prostate is frequently abnormally small. In other cases the infiltrated tissue compresses tumor that fills the entire pelvis. Its consistency is usually hard. Its surface may be nodular or smooth. The tumor is usually an adenocarcinoma, more rarely it is sarcomatous. In most instances it is primary of the prostate. Secondary tumors are found most commonly after gastric tumors.

These-called osteoplastic carcinomas of the prostate consists of small nodules, hard and primary of the organ, with numerous metastases to the form of diffuse infiltration in different bones. The bones of the pelvis, the lower portion of the spine and the bones of the lower extremity are most commonly involved. Prostatic hypertrophy seems to predispose to carcinoma. The early diagnosis can be only probable. If small, hard prostate is palpable per rectum, carcinoma must be suspected. The other symptoms are variable. The prognosis is unfavorable. Advanced cases can be treated

only symptomatically or palliative operation may be performed. Some authors do not deem radical removal advisable even in the early stage. The methods of operation are: suprapubic, perineal, or combined. In case the bladder and seminal vesicles are involved the author advocates the method of Volcker, ischio-rectal incision with the patient in the lithotomy position. The statistics of the operative results are bad. A permanent result is reported occasionally, however the attempt may be made to effect radical removal of the carcinoma, less the case is far advanced.

DEWEES

Willis, R. J. Carcinoma of the Prostate Gland. *Brit. M. J.* 9, 2, 60. By Surg. Gynec. & Obst.

The author quotes Albritton's statistics as proving that 4 per cent of all prostates removed by operation show malignancy and Young as saying that 3 per cent of all enlarged prostates are malignant. As basis for his paper Willis has collected notes on 11 cases of carcinoma of the prostate. It does not state how many of the series are operated upon. He divides operation for the actual diagnosis of carcinoma. If carcinoma is present, radical cure probably cannot be effected by operation. The author summarizes the paper.

The average duration between the onset of symptoms and the time that the patient saw the surgeon as fourteen and one half months.

The average age as 60.

1. The onset symptom as nocturnally increased frequency of micturition 4 per cent, and gradual obstruction of micturition 30 per cent of the cases.

2. Pain as rare and not characteristic.

3. Urinary obstruction as marked feature; 7 per cent had complete retention, and further 24 per cent partial retention.

4. Hematuria as not common probably 3 per cent did not show blood.

5. On rectal examination, 70 per cent showed hard nodules with fixity of the gland.

6. The average duration of the disease from the onset of the symptoms to death was 8 months.

7. Young's statistics that 20 per cent of removed prostates show malignant tendency cannot be ignored. If these figures are accepted, it is the surgeon's duty to remove the gland by operation as soon as it begins to cause symptoms. The risks of the operation are that it is smaller than the risks after malignancy has developed.

8. The treatment recommended when diagnosis of carcinoma has been made is as follows:

(a) In the absence of residual urine, give urinary antiseptic, with opium for the pain when necessary.

(b) If there is residual urine, begin catheter life, using a large-sized hard catheter; give urinary antiseptic, with opium if necessary.

(c) If there is obstruction, or if catheter life is intolerable, establish permanent suprapubic drainage. M. S. HIRSHMAN.

Wallace C. Some Condition Simulating Prostatic Hypertrophy. *Ch. J. 9 3. 1910*
H. Surg. (Voice & Obst.)

The author reports a case which simulated prostatic hypertrophy but proved not to be.

One interesting case is that of a small projection high on removal brought the urethra and its membrane and its own tissue from the posterior urethral wall. The strand was removed by minute denudation.

The second case was operated upon but no enlargement found. The bladder dilated and eventually bowed to lose its normal re-sulting benefit. Then although it was considered to be a case of secondary tumor the bladder was reopened and a wedge-shaped portion of normal prostate removed. The perineal ridge lay about half an inch behind the urethra and the base corresponded to the posterior wall of the urethra above the perineal ridge. That normal function as required indicated that the symptoms are due to tumor defect.

The author thinks that such a kind of lesion is observed not to be a bending of the urethra thus is proved to be a diagnosis of vesical prostatic tumor should be made with great reason.

Conclusions: (1) That many cases present symptoms which first might be considered to be caused by prostatic hypertrophy but which subsequent examination will prove to be due to other causes. (2) That prostatic enlargement can be excluded only by minute examination through the opened bladder. (3) That perineal tumor examination proves that there is no enlargement the cause of the errors of micturition must still be thus the prostatic. (4) That no error of micturition should be assigned to failure of nerve muscle and all mechanical defect has been excluded. (5) That in some cases the use of digital dilatation is a bending of the prostatic urethra and the patient can be cured by simple operation.

LOUIS GROSS.

Hagner and F. Her. The Post-Operative Complications of Prostatectomy. *Surg. Gynec. & Obst.* 9 3. 1910.
By Surg. Gynec. & Obst.

A study of the post-operative complications offers a field of instruction to the surgeon for his future benefit. The important complication is hemorrhage usually of venous origin. It occurs within forty-eight hours and is controlled by pressure with gauze soaked with adrenalin. The removal of the perineal drainage tube is facilitated by the use of oil and peroxide. If the bleeding is suprapubic catheter is passed through the urethra into the bladder. The bladder end of the catheter has a knot of gauze which serves as a plug. It can be easily removed by passing a suture through the bladder end of the catheter and carrying it out through the suprapubic wound.

Thrombosis especially of the pulmonary vessels,

is a frequent complication. Sudden death may however be due to this condition. As pneumonia has to be guarded against, great care should be exercised in administering the anesthetic. The thorax is nitrous oxide and oxygen at present. Sepsis occurs less frequently in the perineal operation due to better drainage. When sepsis does take place good simple drainage and continuous irrigation is of inestimable value. The intravenous injection of salt solution and the use of vaccines are also of value.

The kidney function should be tested before operation if there are any signs of renal disease using Geraghty's phenolsulphophthalein test. Potassium and anemia must always be looked for in these cases. If present one should use salt solution sweat glands and other appropriate measures. The prognosis in cases with diabetes is proverbially bad. A continuation of pyuria after operation is due to infected kidneys, long-standing pre-existing cystitis or to diverticula. A thorough digital examination of the internal urethra should be made at the end of the operation to determine that no diverticula has been left, as this may necessitate a secondary operation. Post-operative urinary frequency is the result of contracted bladder or loss of control.

The peritonium should not be torn as it may lead to peritonitis. The rectum should be carefully watched as fistulae follow when it is ruptured. For the same reason silk traction sutures are not used. The fistula travels along the suture. The fistulae are usually mild and readily yield to treatment.

An operation gives more relief to a patient than properly performed prostatectomy hence the importance of pre-operative and post-operative care of the patient. Cystoscopic examination should be made to ascertain what, if any complications exist and the best way to operate.

Grisenko. Total Prostatectomy in the So-Called Prostatic Hypertrophy (Über die totale Prostatectomie bei der sogenannten Prostatahypertrophie). *Dissertation St. Petersburg* 9 3.

By Zentgraf, J. d. ges. Chir. u. i. Grenzgeb.

The author conducted investigations on the cadaver to determine whether the prostate had a capsule of its own which would make complete enucleation possible. It was found that the gland possesses only one layer of fascia, which is smooth on the external surface posteriorly only and rough on the other surfaces of the gland. This fascial covering can be separated from the gland easily on the posterior surface with the exception of the median part and also on the sides. On the anterior surface it can be separated only with difficulty. A continuation of the fascia to the apex and to the base of the gland was not demonstrated and it was impossible to isolate a distinct capsule. The capsule described by other authors must be considered as a part of the pelvic fascia which invests the entire gland with the exception of the base and apex.

The division of the prostate into distinct lobes is not justified from an anatomical point of view. To determine whether a gradual increase in size of the gland takes place with advancing age the author examined the prostates of sixty male cadavers between the ages of 40 and 90 years and arranged them into groups according to age. It was found that the size of the gland increases only a trifle with advancing years. On the strength of thirty-two cases examined he comes to the conclusion that prostatic hypertrophy is tumor formation (adenoma) of the glandular tissue. The principal changes occur in the central part of the gland, directly under the urethral mucosa. The author then offers microscopic proof of his contention. From the clinical standpoint his views are reinforced by the progressive character of the disease by the occurrence of malignant degeneration and by the possibility of recurrence.

The author offers further evidence that these adenomas originate in the peripheral glands. Although the prostate grows in size it retains its normal contour; the enlargement is at the expense of the antero-posterior diameter. The glandular tissue of the prostate is divided by the smooth sphincter of the urethra into a central and peripheral part of peripheral urethral glands. With the enlargement of the peripheral glands the sphincter of the urethra is forced backward. The peripheral zone is the true prostate glandular tissue. The musculature of the prostate and the musculature of the pars prostatica urethrae are really inseparable, being practically one. On account of this musculature close relation exists between the prostate and its surrounding structures.

As a result of his operations of spemecae and inversions on the cadaver the author comes to the conclusion that complete extirpation of the prostate in the histological sense is impossible without causing lesion of the pelvic fascia and ejaculatory ducts. The adenomatous enlargements of the prostate are much more accessible from the bladder than from the perineum. During prostatectomy the entire gland is not coagulated but only its adenomatous part. In the living man a large part of the gland remains intact which may be considered as the surgical capsule and which prevents the opening of the preprostatic venous plexus and of the pelvic connective tissue. Experience teaches further that in view of the close relationship of the urethral mucosa to adenomatous tissue, part of the former is sacrificed at the prostatectomy. The ejaculatory ducts as a rule remain intact during the removal of the adenomatous masses. The author prefers the transvesical route to the perineal for the following reasons. Technically the operation is easier; hemorrhage is less; thorough drainage from the wound is obtained; and in infected cases and in old individuals the operation may be performed in two steps. Above all, the excellent results obtained by it favor the suprapubic route. An extensive bibliography and four microphotographs are appended.

Hirsch.

Morse: Prostatectomy in the Aged. *Intern. M. J.* 9 3 xv, 641. By Surg., Gynec. & Obst.

The author submitted a series of questions to the genito-urinary surgeons in this country and abroad with reference to their experience in prostatectomy in the aged. From the answers received he compiles the following:

Twenty surgeons reporting successful perineal prostatectomies gave the highest age of their patients as ranging from sixty-three to eighty-nine years. Twelve had operated successfully on men over eighty, reporting, in all, thirty cases between eighty and ninety.

Eighteen surgeons reported successful suprapubic operations upon patients whose ages were from sixty-six to ninety. Thirteen of these had operated successfully upon men over eighty, reporting fourteen cases.

Of the twenty-five surgeons he expressed an opinion, all but five were in favor of prostatectomy in the aged where general conditions are satisfactory and local conditions indicate an operation.

The mortality of less than two per cent following prostatectomy in the absence of serious complications, is contrasted with death rate of over five per cent for enlarged prostate treated by catheterization.

The author reports cases of perineal prostatectomy in patients ninety years of age, in which his results were prompt and satisfactory. He concludes that catheter treatment of enlarged prostate is unsurgical and unsafe; that prostatectomy is the best treatment; that it is nearly as safe in the very aged as in younger men; and that it is the consensus of opinion that it is no better than prostatectomy and the operation should therefore be performed whenever practicable. Tamm & C. Halloway.

MISCELLANEOUS

Pfister: Urolithiasis und Bilharriasis (Urolithien und Bilharriaden). *Arch. f. Schiffs- Tropenheilk.* 9 3 xvii, 300. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Until now the views held in regard to the direct relations between bilharriasis and the frequent occurrence of stone in the urinary passages have been divided: one group of men maintaining that all stones in the urinary passages are due to bilharriasis, and the other group maintaining that the increased amount of mineral matter in the water of the Nile during the summer is responsible. The fact remains, however, that those investigators who examined large numbers of stones found bilharria eggs in their centers much more rarely than was expected.

Pfister calls attention to the fact that frequently little nodules are found in the center of stones. These nodules are the result of drying and calcification of the fluid present in the small cystic bodies found in cystic cystitis of bilharriasis. Further more, these little nodules found in the so-called

sandy bladder are the result of calcification of the ulcers resulting from penetration of these little eggs into the bladder. Therefore we must also consider stones containing such little nodules as due to bilharzias. In thirty stones carefully examined along modern lines, Pfister found bilharzia eggs only three times positively in three instances bilharzia eggs were probably present. Other interesting points are discussed, tending to show that in Egypt a bilharzia infection predisposes to stone formation.

RUSSELL.

Freund E. Experiences with Arthigen in Complications of Gonorrhoea (Erfahrungen mit Arthigen bei den Komplikationen der Gonorrhoe). *Wsch. med. Wochenschr.* 93, heft 530.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The author treated 3 cases of acute gonorrhoeal epididymitis with injections of 0.5 gm. of arthigen and obtained good results in 2 cases. In one case of chronic epididymitis four injections had no effect. Seven cases of acute prostatitis were promptly cured. In five cases of chronic prostatitis and three of anterior gonorrhoeal urethritis the injections gave no results. One case of posterior gonorrhoeal urethritis and lymphangitis was considerably improved by two injections. Also in cases of gonorrhoeal arthritis were influenced favorably. Forty-two cases were treated in all.

Freund's conclusions are as follows: 1. Arthigen is a specific remedy of great diagnostic value in doubtful cases. It is perfectly harmless. 2. It is of great therapeutic value in acute gonorrhoeal epididymitis, acute gonorrhoeal arthritis, and sometimes in acute gonorrhoeal prostatitis. Especially in epididymitis the vaccine therapy is superior to all other known methods and remedies because it relieves the patient immediately and shortens the time of treatment for the entire gonorrhoeal affection. According to the recommendations of Bruck, Freund treated only those cases in which there was no fever. Numerous other authors have reported favorable results with this therapy. *MAHNEY.*

Kollercher G. Mid-Operative Diagnosis in Urologic Operations. *J. Am. Med. Ass.* 93, heft 74.
By Surg. Gynec. & Obst.

The object of this paper is to emphasize the importance of mid-operative diagnosis in urological operations after the organ has been exposed, and the fact that operative procedures must often be adjusted to the conditions discovered.

In most instances of external urethrotomy it is impossible to decide definitely whether to perform a mere splitting operation or to resect until the urethra is exposed.

In Hagner's epididymotomy the location and the extent of the depleting incisions cannot be decided

upon until the testicle and its appendages have been fully exposed to view and palpatory examination has been made. The same holds good for tuberculous involving the epididymis.

In suprapubic prostatectomy the macroscopic differential diagnosis between simple hypertrophy and cancer and between hypertrophy and an edema of the prostate cannot be made until the bladder is opened.

In cases of extensive tumors of the bladder especially those in which the tumors are near the base of the vascus, and in which extensive resection or complete extirpation of the bladder is contemplated, these questions can be decided best by exposing the bladder digging it out of its surroundings without opening it and in this way making it accessible for immediate palpatory examination.

In kidney surgery the mid-operative diagnosis is of great help. Unusually free hemorrhage in the approximating incision will call the attention of the operator to the presence of adhesions and the possibility that the causative inflammation has involved the peritoneum and glued it to the kidney. The operator should therefore use extreme caution not to break into the serosa. Any edema discovered surrounding the ureter on its course down to the bladder is as a rule of mechanical origin and indicates that the ureter is kinked. The ureter therefore, will have to be exposed and the obstruction removed before its patency can be re-established.

Bimanual palpation of the exposed kidney will in certain cases furnish information which is absolutely decisive as to the choice between nephrectomy and nephrotomy. This decision can be made before the kidney is opened. For instance, in case of streptococcal infections of the kidney involving a small renal pelvis, the chance of cure by drainage is good. On the contrary, if palpation of an enlarged kidney infected by the colon or the streptococcus bacillus reveals the presence of numerous adherent spots and a number of softened areas an extensive hard infiltration of the renal parenchyma, or fluctuating necrosis, the kidney should be removed unopened.

In cases of renal concretions combined palpation of the exposed kidney will be of great advantage. After splitting open the renal pelvis it will enable the surgeon to explore the calices and locate concretions higher up in the parenchyma and will also facilitate the sounding of the ureters.

In perineal suppurations the mid-operative diagnosis will influence the diagnosis between an infected perineal hematoma or superficially infected focus in the surface of the kidney.

In conclusion the author covers some of the most important points in which mid-operative diagnosis will show its value in urological work.

THEO. DROMOWITZ.

SURGERY OF THE EYE AND EAR

EYE

Ohlman & Severin J. report the Eyes and Face by So-Called Water-Cure and Zodiak Golf Balls; Methylalcohol and Golf Ball (Anger and Geschickter's experiment - schwerer Art durch sogenannte Water-Cure und Zodiak Golfbälle oder Methylalkohol und Golfbälle) *Klin. Wochenschr.* 9. 3. 22, 604.

By Zentralblatt d. ges. Chir. u. Grenzgeb.

The author points out the fact that the rubber core of the above mentioned golf ball is replaced by a heap of fluid or cement like mass alkaline reacting mass which is under high pressure and the chemical composition of such trade secret. If a ball of this kind is opened, it is content to explode violently and fire the hands and clothing of the ball players just as would a corrosive fluid. Two hours later the eyeball is greatly swollen, and reddened the conjunctiva of the lids as well as the bulb is covered with livid grey mass and the cornea thickened and opaque. There is marked chemosis and diminished vision. After a week iridocyclitis with a papillary development develops in the lower quarter third of the cornea, which is covered with superficial blebs. The epikeratic zone later becomes pale, scarred and densely opaque. The eyes of red blood vessels the cornea becomes clearer after the use of boracic tropsine bulbar and a leucopunctate portions of physiologic solution. This is not the case yes after 48 hours the cornea is still the latter the opacities of the cornea are permanent. Because the extremely dangerous methylalcohol has so often been applied under another name in spite of the fact that the author assumes justly that the balls mentioned which are produced in America may be introduced into Germany. If therefore warns against the use of them.

Stephenson S. Some Remarks upon the Diagnosis and Treatment of Lacrimal Affections. *Clin. J.* 9. 3. 22, 5. By Surg. Gen. & Obst.

Stephenson says that we do not now once assume that a stricture is the result of an organic stricture as was at one time the case. A surgeon eliminates such causes if epiphora as displaced or occluded punctum or chronic nasal tarr. If no obvious cause is found, fluorocera is dropped into the conjunctival sac and if it does not pass the nose. Treatment of the conjunctival sac and nose should be carried on for several weeks, and if this fails, lacrimal syringe may be used. Even if fluid does not pass through the first few trials it is probable that this plan will succeed. *This condition has not been treated by probe.*

Stephenson warns of the danger of using any, not of prolonged under pressure. If the syringe is of no avail, use may then be made of the probe or the sac may be excised, or Total operation may be performed. A discussion of these measures follows.

C. G. DARRIN.

Stephenson S. Clinical Lecture on the Treatment of Glaucoma, with Particular Reference to the Newer Operations. *Med. Press & Circ.* 9. 3. 22, 57.

By Surg. Gynec. & Obst.

Stephenson takes up the treatment of glaucoma under three headings: (a) first aid (b) surgical aid (c) palliative treatment. Under first aid he discusses subconjunctival injection of sodium-chloride, posterior sclerotomy pilocarpine and diotics. Under surgical treatment he discusses iridectomy and its modifications, Lagrange's, Elliot's, Heine Helze Ferrus, Netter's, the Thread, Herbert and Hiltz operations in detail. He does not think that palliative treatment should be long continued.

C. G. DARRIN.

Frank J. H. Capillary Angioma of the Retina. *J. Ophth. Otol. & Laryng.* 19. 3. 22, 263.

By Surg. Gynec. & Obst.

Frankel reports a case of his own of capillary angioma of the retina, and reviews the similar cases which have been published.

Frankel reviews his own case as follows: The question is that of the origin of capillary angioma of the retina characterized by the occurrence of locations more or less distant from the papilla of little spots, bright thus situated in the place where the retinal capillaries are presumed to be. These little spots are at first but soon different and an efferent vessel. Gradually they increase in size and at the same time the vessels between which they occur become more apparent. Then we can perceive that as the bodies become larger there is corresponding exaggerated development of the arteries and veins which are dilated, tortuous, tortuous. At this stage we can see more than two vessels butting upon the same body even if bodies may communicate by intermediary dilated vessels.

This section begins very insidiously provoking at first subjective troubles — sensation of smog before the eyes, mist, muscae volitantes and, finally at the end of several months or may be year lowering of visual acuity. Object recognition have been noted at the periphery of the visual field, it is true with some difficulty. In one case they developed simultaneously in the two eyes.

In antecedents, we find a sister blind in both eyes at the age of 5 and 3 years. The patient

affection began after his military service, at the age of about 3 or 24 years.

The ophthalmoscopic appearance at this stage of the disease is very characteristic and is similar to figures of analogous cases published in ophthalmic literature.

C. G. DARLING

Verhoeff F H Parinaud Conjunctivitis; A
Mycotic Disease Due to a Hitherto Unde-
scribed Filamentous Organism Arch Ophth.
9 Lrid, 345. H Berg Gynec & Obst.

The findings reported in this article are given in the conclusion. In eleven out of twelve co-secutive cases, each having the clinical features described by Parvaud and each presenting essentially the same characteristics histological picture, a minute filamentous micro-organism was found. The absence of any other demonstrable micro-organisms in the lesions, the scarcity of the micro-organisms found, their great abundance and the fact that they are associated with the lesions, leave no reasonable doubt that they were the cause of the disease. They occur in the areas of cell necrosis and would point out to confirm the diagnostic importance of these areas.

The clinical findings in the areas consisted of conjunctival hyperaemia, the smaller larger but areas on their surface and the enlargement of the preauricular lymphatic gland histologically in the areas for areas with the endothelial phagocytes in some stages of necrosis were found these cells in direct arrangement. There were lymphoid plasma cells and almost no eosinophils. The organisms made visible by staining the modified Gram stain which is described in the article.

LARRY B. LOWMAN

Mitsch C. Sympathetische Nystagmus in Eryd-
las (Sympathetischer Nystagmus bei Erup-
tion des H. A. 1887, S. 10, 11)
By Zeitschr. f. d. med. Naturg. 1887, 10, 11

spontaneous yet grows mostly horizontally, rotatory with eyes directed laterally or p and d is almost constant symptom of lateral cranial erysipelas. The subcutaneous apparatus itself is not injured. This phenomenon may be of great importance in the differential diagnosis. A. R. W.

**Vall: Cerebral Localization from the Standpoint
of the Oculist. Lencic-Clinic 93 ix, 60
Byberg, Gyro. & Ulfst.**

Ninety per cent of brain cases present definite eye symptoms, and these are of value in localizing the lesion studied in connection with other symptoms. Of the symptoms most often found, those considered are

- (c) Conjugate paralysis and conjugate spasm of the muscles
(d) Pseudo-systrismus and ystrismus.
(c) Strabismus and disjunctive movements of the eyes
(d) The pupils

(g) The fields of vision, ocular and mind blind
ness.

(f) Optic neuritis.

The author takes up each group and discusses its significance with special emphasis on brain tumor localization.

EARLE B. FOWLER.

EAR

G. Mennin M. A Contribution to the Pathogenesis and Treatment of Pharyngeal Collections of Otitic Origin (Contribution à la pathogénie et traitement des collections pharyngiennes d'origine otique) *Thèse de Nancy* 03 juil.

Retro- and lateropharyngeal abscesses following otitis are quite rare. They are generally considered very serious. In 9 cases collected by Collinet in 806 there were 3 deaths.

Guillemin reports a very interesting case of retropharyngeal abscess of otitic origin that were cured and he attempts to show that contrary to current opinion this termination to otic suppuration is favorable.

The most interesting chapter of his work is that which deals with the pathogenesis. Guillemi does not speak of deno-phlegmons. He studies only the bacterias / otic rigi that are accessible to new exploration

(b) **Infection** may spread to the retro-pharyngeal cellular tissue by three routes. By way of the bones. The pus gains the sub-laryngeal group of the mastoid cells and thus arrives at the extreme point of the temporal bone. It then reaches either the tensor lacertated ramus the interior of the lateral pons or the pharynx the ant-laryngeal group which extends along the Eustachian tube. Also the pus may flow the groove in the mantle of the brain and reach the petrous and petropharyngeal cellular tissue.

By the endocranial route. The pus collected secondarily upon one of the two endocranial sides of the temporal bone may spread from behind towards the anterior lacrated foramen, the occipital passage or the tensor condylar passage this being the common route in sinus-dynamic mastoiditis with suboccipital subpetrous and pharyngeal tracts.

3 By the occipital route. The pus after spontaneous trepanation of the cavity or of the atrium, gains the base of the skull. Here it follows the stylo-pharyngeal aponeurosis and thus reaches the lateral side of the pharynx.

On the basis of his theory that latero-pharyngeal masses in the course of cist suppurative are a favorable symptom leading to rapid cure, Guillemin asks if it could not be permissible in cases of prolonged suppuration of the base of the brain to favor drainage of the suboccipital pus toward the pharynx. This may be accomplished by opening for it care fully route following the condyla canal intermediate to the arterial and of the occipital condyl

SURGERY OF THE NOSE, THROAT AND MOUTH

Kyle: The Nasal Septum and Its Relationship to the Sympathetic and Sphenopalatine Ganglion Neurosis. *Intern. M. J.* 9 3 21, 25
By Surg. Gynec. & Obst.

With irritation of the complicated nervous mechanism of the attic of the nose the impressions are easily carried by way of the trifacial nerve to the nuclei of the facial and vagus nerves in the medulla. The result of irritation of the motor sensory and sympathetic nerve fibers is far reaching, and nutritive or cardiovascular changes are to be expected. Some of the symptoms are constriction, mental apathy, feeling of fullness in the attic of the nose, sometimes nausea, and skin manifestations characteristic of pronounced vasomotor disturbance. Anisopsia, migraine, or pain in the temple or eye ball may be experienced.

A mucous resection of a deflected septum is the first operative procedure, to be followed by operative treatment of the middle turbinate body or sinuses only if necessary.

The author also describes the sensory nerve supply of the nose and advocates local anesthesia by the injection of 1 per cent cocaine solution along the course of these nerves. EARLE B. FOWLER.

Klestadt: Surgery of the Nasal Sinuses (Die Chirurgie der Nebenhöhlen der Nase). *Ergebn. d. Chir. Orthop.* 9 2, 4, 38
H. Zerstüben in der Chir. Wiesbaden.

The monograph considers the literature of the last three years, references the progress made in the pathology and therapy of the diseases of the nasal sinuses. Onoda investigated the variations of the frontal sinus of 200 skulls. In 5 per cent he found a bilateral absence, in 1 per cent unilateral absence of this sinus. After short discussion of foreign bodies and injuries of the sinuses he goes into detail in regard to the antrum. Etiologically infectious diseases are important; the rhinogenous genesis, however, is the most frequent. Acute rhinitis is the most frequent source of infection. Diseases of the teeth also enter into consideration in maxillary sinus infections. Pathologically acute and chronic inflammations of the antrum do not differ from other mucous membrane inflammations. For the diagnosis exploratory irrigations are of extreme importance and are discussed in detail. Exploratory puncture of the antrum from the alveolar process should be performed only in dental empyemas. In the other cases punctures should be made from the middle nasal cavity, being more easily performed in this way than from the inferior cavity. Irrigation of the frontal sinus is relatively easy by means of Killian's long speculum with which the middle tur-

binates can be lifted. All force is to be avoided on account of the danger of injuring the lamina cribrosa. Transillumination is applicable only to the antrum. Radiography has been extensively employed especially in doubtful cases in children and in the unconscious. Clinically the inflammations of the antra have been divided into simple and complicated. Facial, oculo-orbital, and intracranial complications have been studied thoroughly in the last few years. Van der Hoeve's symptoms, enlargement of the blind spot of the eye, is of importance in diseases of the posterior ethmoidal cells and of the sphenoidal sinus. This symptom, however, is not constant according to Markbrecher's investigations.

In regard to the treatment of inflammations of the antra the author emphasizes that radical extranasal operations should be performed only after unsuccessful purely conservative means and the lesser endonasal procedures. By these measures patients with antrum infections can almost certainly be cured, and the majority of those with frontal and sphenoidal sinus infections as well. In combinations of the two and a ethmoidal sinus suppurations the prognosis must be guarded. Excellent results are obtained with the radical operation of Caldwell-Luc in antrum suppurations. According to Bönnighaus almost 100 per cent of cures are obtained. The endonasal radical operation on the ethmoidal cells frequently can not be performed in one session. Many times a cure is obtained only after several attempts. The extranasal operation is to be performed if the endonasal operation results in no improvement and in the presence of cerebral complications. The same applies to the radical operation on the sphenoidal sinus. The radical operation on the frontal sinus is best performed according to Kalk's method. According to Bönnighaus's statistics (100 cases) a cure is obtained in 99 per cent of the operation. The mortality is 2 per cent. All sinus operations may be performed under local anesthesia according to the method of Braunsch, although general anesthesia is frequently necessary. In conclusion the author discusses other rare specific infections and other diseases of the sinuses of importance in the differential diagnosis, such as osteomyelitis, cysts of the superior maxilla, sarcomas, and blastomas. KALLER.

Mittelschneider: Alcohol Injections into the Superior Laryngeal Nerve in Tuberculous Laryngitis. *Chir. St. M. J.* 9 3 12, 33
By Surg., Gynec. & Obst.

Alcohol injections are a valuable adjunct to the palliative treatment of tuberculosis of the larynx, especially that form of the disease in which great

involvement of the superior orifice of the larynx exists—the styeno-epiglottic type. The presence of a painful spot located at a point where the internal branch of the superior laryngeal nerve pierces the thyrohyoid membrane is a positive indication.

The technique is simple. The needle (one not too sharp) is inserted $1\frac{1}{2}$ cm. over the painful spot. The direction of the needle is then turned upward and outward toward the ear and fifteen to thirty drops of 80 per cent alcohol (warm) are injected.

CARLE B. FOWLER.

Masland. Antral Empyema with the Presentation of an Efficient Conservative Operation for Its Cure. *N. Y. M. J.* 9, 3, xviii, 90.

By Surg. Gynec. & Obst.

In treatment of inflammation of the antrum after the formation of pus, it is necessary to establish good drainage and to afford an easy means of irrigation. Thus the author does by drilling through the nasal wall at the floor of the nose using a straight drill, and inserting a permanent cannula about 4 cm. long. The irrigation may be carried out by the patient inserting the end of an all-rubber ear syringe into the mouth of the cannula. CARLE B. FOWLER.

Murphy. Use of Palatal Mucous Membrane Flaps in Ankylosis of the Jaw Due to Cicatricial Formations in the Cheek. *J. Am. M. Ass.* 9, 2, lx, 145.

By Surg. Gynec. & Obst.

The author reports two cases in which this original method was successfully used. The flaps were of mucous membrane pedicled and obtained from the palate or floor of the mouth. On examination the first case showed complete immobility and no pain or tenderness pressure over the joint. The roentgenogram showed that there was no bony ankylosis. Through an external incision the jaw bones and articulation were exposed and fibrous extra-articular ankylosis was demonstrated. What remained of the alveolar processes were removed and when the attachment of the temporal muscle was divided the jaw dropped.

A tongue-shaped pedicled flap was dissected from the palate, the base of the flap being toward the back of the mouth, the inner limb of the incision being about one quarter of an inch shorter than the outer. When this was reflected outward to cover the bone of the upper jaw which was denuded by the chiseling, there was no contraction which might interfere with the circulation of the flap. The sides of the flap were sutured with very fine catgut to the margins of the gums and the tip was anchored to the cheek. A small pledget of antiseptic gauze was placed between the jaws. The

mucous membrane of the cheek was carefully approximated with fine catgut and the skin incision closed with horsehair. The wound was dusted with bismuth sub-iodide powder and plain sterile gauze applied. A wedge of folded gauze was placed between the teeth, which was within a week replaced by a wooden wedge, with which the patient spread the jaws. Four weeks after the operation she was able to open her mouth about an inch without assistance. Four months later the patient wrote that she could open her mouth about an inch and a half.

In the second case the cicatricial tissue was carefully divided and two tongue-shaped flaps interposed, one obtained from the floor of the mouth and the other from the palate. Both flaps were about two and one half inches in length and from one half to one inch in width. The result of the operation was entirely satisfactory. The patient left the hospital in five weeks and was able to open her mouth unaided about an inch. H. A. FORRIS.

Skiffers, P. G., Jr. Infiltration of the Lingual Nerve for Operations upon the Tongue and for the Relief of Pain in Inoperable Carcinoma. *Surg. Gynec. & Obst.* 9, 2, xix, 14.

By Surg. Gynec. & Obst.

Confronted with an ulcer of questionable malignancy in the anterior two thirds of the tongue, in which excision was indicated, it occurred to the author to induce numbness by infiltration of the lingual nerve instead of by the more painful intra-lingual injections. The nerve was reached one half inch below and behind the third molar tooth, where it crosses the line projected between that tooth and the angle of the mandible. Subcutaneous injection of 4 cc. of 1 per cent novocain and adrenalin, 3000, induced anesthesia in the anterior two thirds of the tongue within five minutes. Neither the excision of the ulcer nor the Paquetin cauterization were felt. A second patient had inoperable carcinoma with chronic pain. Injection at the same site of 1 cc. of 1 per cent novocain and adrenalin, 3000 in 4 cc. of 1 per cent alcohol induced analgesia in ten minutes. The following night the patient slept more soundly than he had slept for two months. In bilateral injections the tongue loses its power of determining temperature, so the patient should be warned to test the temperature of his food with his lips. Infiltration of the mandibular nerve is warranted only where growth or the absorption of the alveolar process after the shedding of the third molar tooth, has destroyed the landmarks of the lingual nerve.

SURGERY OF THE NOSE THROAT AND MOUTH

Kyl: The Nasal Septum and Its Relationship to the Syndrome of Spheroopalatine Ganglion Neurosis. *Intern. M. J.* 9: 21, 65
By Surg. Gynec. & Obst.

With irritation of the complicated nervous mechanism of the attic of the nose the impressions are easily carried by way of the trifacial nerve to the nuclei of the facial and vagus nerves in the medulla. The result of irritation of the motor sensory and sympathetic nerve fibers is far reaching, and nutritive or cardiovascular changes are to be expected. Some of the symptoms are constriction, mental pathy a feeling of fullness in the attic of the nose, sometimes nausea, and skin manifestations characteristic of a pronounced vasomotor disturbance. Arthralgia, migraine or pain in the temple or eye ball may be experienced.

Submucous resection of a deflected septum is the first operative procedure, to be followed by operative treatment of the middle turbinated body or sinuses only if necessary.

The author also describes the sensory nerve supply of the nose and advocates local anesthesia by the injection of 1 per cent cocaine solution along the course of these nerves. *EUGENE B. F. WILKINSON*

Klestedt: Surgery of the Nasal Sinuses (Die Chirurgie der Nebenhöhlen der Nase). *Ergebn. d. Chir. u. Orthop.* 20: 5, 65
By Zentralbl. f. d. ges. Chir. Grosssch.

The monograph considers the literature of the last three years in reference to the progress made in the pathology and therapy of the diseases of the nasal sinuses. Onodi investigated the variations of the frontal sinus of 500 skulls. In 15 per cent he found bilateral absence and in 1 per cent unilateral absence of this sinus. After a short discussion of foreign bodies and injuries of the sinuses he goes into detail in regard to the antra. Etiologically infectious diseases are important the rhinogenic genesis, however is the most frequent. Acute rhinitis is the most frequent source of infection. Diseases of the teeth also enter into consideration in maxillary sinus infections. Pathologically acute and chronic inflammations of the antra do not differ from other mucous membrane inflammations. For the diagnosis exploratory irrigations are of extreme importance and are discussed in detail. Exploratory puncture of the antrum from the alveolar process should be performed only in dental empyemas. In the other cases punctures should be made from the middle nasal cavity being more easily performed in this way than from the inferior cavity. Irrigation of the frontal sinus is relatively easy by means of Killian's long speculum with which the middle tur-

binat can be lifted. All force is to be avoided in account of the danger of injuring the lamina cribrosa. Transillumination is applicable only to the antrum. Radiography has been extensively employed, especially in doubtful cases in children and in the unconscious. Clinically the inflammations of the antra have been divided into simple and complicated. Facial, oculo-orbital, and intracranial complications have been studied thoroughly in the last few years. Van der Hoeve symptom, enlargement of the blind spot of the eye, is of importance in diseases of the posterior ethmoidal cells and of the sphenoidal sinus. This symptom, however is not constant according to Markheiter's investigation.

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frequently cannot be performed. Many times cure is obtained on attempts. The extranasal operation formed if the endonasal operation proved and in the present operations. The same applies on the sphenoidal sinus. The frontal sinus is best Killian method. Accidents (cases) of the operation. The sinus operations anesthesia accord though general. In conclusion cific infect of import osteomyelitis, cels.

Also

palpate especially the

The Embryonic duodenal tube and its uses. S. K. STROCK
N. Y. M. J. 9 3, 1891, 4.

New instruments for the duodenum and the small
intestine. FERNBERG. Berl. klin. Wochenschr. 9 3, 1,
No. 29.

The urethroscope—its importance in urethral pa-
thology diagnosis and treatment. S. ENGLANDER. Cleve-
land M. J. 9 3, 22, 475.

A new hystero-graphic apparatus. I. S. HUNTER
N. Y. M. J. 9 3, 27, 17.

A arm water supply for the operating room with a
simple arrangement of the wash basin. BUCKNER. Zen-
tralbl. f. Chir. 9 3, 21, N. 20.

The employment of spreading springs in the treatment
of persistent prostates. THURM. Zentralbl. f. Chir. 9 3,
21 N. 20.

SURGERY OF THE HEAD AND NECK

Head

Successful treatment of cancer of the face by simple
puncture with ferrous oxide. H. SPEDER. Zischr. f.
Krankh. 9 3, 22, 30. [1898]

A case of plastic repair of the face for marked post-
operative deformity and of canalization of the canal of
Stenson because of salivary fistula. M. ST. BOLL. d. ac-
med. Bologna, 9 3, 1891, N. 6.

Crossing of the spinal facial nerve in traumatic paralysis
of the facial nerve. PAVONI. Policlinico Roma, 9 3, 27,
No. 29.

Treatment of facial neuritis. BARNARD. J. d. prae-
ticiens, Par. 9 3, 22, 4, N. 29.

Electrical treatment of neuritis of the trigeminal nerve.
ALBERT WIRTH. Par. med. 9 3, N. 23.

The diphtheritic cure by injection of alcohol into the
ganglion ganglion. A. THURM. Arch. internat. de
laryngol. otol. et de rhinol. Par. 9 3, 22, N. 3.

Operative cure of tumor of the parotid gland.
SACCHI and BIRRO. Berl. klin. Wochenschr. 9 3, 1, N. 30.

Salivary calculus. E. VA. and BORN. J. M. J.
9 3, 22, 4.

Excision of diffuse and marked suppuration of the
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IMPORTANT ANNOUNCEMENT
A NEW DEPARTMENT—RADIOLOGY

Probably in no other field during the past ten years has medical science shown greater advances, both in improvement of technique and in breadth of scope of application than it has in the various departments of radiology, electrology, thorium therapy, and in the invention and application of new electrical appliances for diagnostic and therapeutic purposes.

Realizing that this science has become an indispensable factor to every surgeon both as an aid to diagnosis and in treatment, and recognizing the vast amount of important literature which is now appearing on the subject, the *INTERNATIONAL ABSTRACT OF SURGERY* has established a new department to be devoted to this specialty under the direction of a capable editorial staff.

In the future all abstracts which deal with electrology in a general sense will be found in a section devoted to this science, while those which have a regional application will be classified according to our established anatomical arrangement.

In this number will be found abstracts of many of the important papers read at the meeting of the American Röntgen Ray Society held in Boston in October. Other abstracts will appear in succeeding issues.

INTERNATIONAL ABSTRACT OF SURGERY

DECEMBER 1913

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

SEPTIC AND ANTISEPTIC SURGERY

Kozłowski, B. Alcohol Operating Gloves (Alkohol operationshandschuhe). *Zeitschrift für Chirurgie* 41 38 By Zentralblatt für Chirurgie (reue)

In view of the fact that alcohol hardens the skin and fixates cutaneous germs, the author uses his operations sterile thread gloves soaked in alcohol and put on moist, never the disinfected hand. He has never noted any injury to the skin with hands even after many hours of contact with the alcohol. No injury to the tissue in the operative field. The gloves are frequently moistened again with alcohol during the operation replaced by fresh ones soaked in alcohol.

ANÆSTHETICS

Buxton, W. A Dosimetric Method of Administering Chloroform. *The Medical Congress, London* 9 3 108 By Surg. General & Obst.

The principles involved in this method are as follows:

1. Chloroform acts upon the tissues in proportion to the strength of its vapor in mixture with air or oxygen.

2. The action of chloroform is progressive; the narcosis becoming deeper when the chloroform is given over long period in constant dilution.

3. Different body tissues are affected in similar way though in different degrees. Percentages of vapor below a certain per cent do not produce anesthesia but interfere with the temperature and metabolism. Higher percentages induce anesthesia, lower blood pressure and interfere with respiration.

4. Chloroform is ultimately a protoplasm poison.

5. Chloroform reacts decidedly more vigorously upon pathological tissues and in abnormal conditions such as asphyxia, anemia, fatty or degenerative changes in tissue cells, etc.

6. A definite percentage of vapor will produce anesthesia but greater amount produce deeper narcosis which interferes with vital functions. The amount of chloroform necessary to maintain steady level of anesthesia varies inversely with the length of time it is inhaled.

7. The amount of vapor required to induce and maintain anesthesia is less for individuals of impaired vitality and for children.

The extent to which chloroform passes from the blood into the blood stream is impossible to gauge. The anesthetic in the tissue cells causes a lessening of ultimate chemical reaction.

The interference being directly proportional to the percentage strength of the chloroform introduced. W. B. has also that nerve tissue first becomes paralyzed then loses its conductivity a uniform result following known percentage strength of vapor.

The degree of harmolysis is difficult to estimate because the influence exerted by many factors in human beings is unknown. Chloroform causes fall of blood pressure, heart weakness, possibly due partly to dilatation and lessening of vasomotor control. These effects can be controlled by lessening the amount of chloroform given *per se* with the length of time that it is administered providing environmental conditions remain the same. The effect is influenced profoundly by asphyxia, hemorrhage or traumatic shock. Oxygen restrains the effect of chloroform upon the tissues, and normal blood protects them. A percentage of chloroform that will produce safe anesthesia in normal individual may be dangerous for one whose blood is vitiated by disease and especially by anemia.

It is agreed that double the anesthetic dose constitutes the lethal dose. Chloroform affects tissues in the following order: (1) nerve tissue, the highly differentiated first; (2) heart muscle; (3) striped

voluntary muscle and (4) involuntary muscle fibre.

Upon this fact anesthesia depends otherwise the production of unconsciousness would be impossible. The most highly differentiated part of the brain is first thrown out of function, then the lower ganglia are affected while blood pressure falls and respiratory functions become more limited. The myocardium is affected rapidly and early and soon loses its power of contracting. The normal reflex mechanism is so affected that abnormally severe inhibitions are elicited and metabolism may be profoundly influenced. From the foregoing the author believes that the effects of chloroform are due to the actual vapor strength rather than to the actual amount of drug used, not considering of course the result from toxic quantities. Therefore, the dosimetric system is advocated as a means of limiting the strength of the admixture used not only in inducing anesthesia but in maintaining it as the tissues become more and more under the influence of the drug in order to be sure that its effect is merely anesthetic in character and not toxic.

In the induction of anesthesia, it has been found that the organism will tolerate high percentage vapor if the strength is reached gradually while its sudden use results in collapse and even death. For a normal person it has been found that

strength of about per cent will induce anesthesia, that less will cause sleep only and that more will embarrass the respiration and circulation. In spite of these facts, the average administrator experiments upon his patients, and his results depend upon his personal acumen as an experimenter. Failure is often certain because of his inability to estimate subtle tissue changes and to anticipate contingencies of shock and actual tissue injury. These considerations bear equally upon the period of maintenance when an overdose of chloroform may put the patient in a state of toxemia even though his life has never been in jeopardy during the administration.

There are three dosimetric methods: (1) the open method; (2) the administration of mixtures; (3) the administration by instruments which present to the atmosphere of known strength or by inhalers which determine an admixture of chloroform and air the strength of which is known and can be varied by the operator with great accuracy. The open method is comparatively accurate but only in the hands of those with the utmost skill and experience and when disturbing factors such as variations in depth and frequency of respiration, room temperature, and air currents can be eliminated. With mixtures, the same objections hold true, and, in addition, it is impossible to obtain any accurate percentage value for the chloroform which is given off because of the difference in the boiling point of the ingredients.

Many mechanical inhalers are on the market—Bert's, Snow's, Clover's and the Roth Dräger apparatus—but all of these allow the per cent

strength to be exceeded. The regulators of Dubois, Waller and Alcock are exact but bulky. The author has used chiefly the Vernon-Harcourt regulator and his experience has been that per cent need not be exceeded. I very muscular and obese subjects rapid induction with nitrous oxide and ether preceded by gr. / 100 of atropin has been serviceable. The author uses oxygen in order to maintain the vigor of the tissues and to lessen shock and prevent weeping when large areas are incised or debrided. When deep narcotics is necessary, dosimetric inhaler enables the anesthetist to better control the higher percentages when he is working in the danger zone. Cyanosis is due not to the inhaler but to preventable complications which may arise with any method of giving chloroform. Vessel and mouth tubes are supplied with the common inhalers and the vapor may be inspired by Collie's method or can be propelled by a foot bellows.

After dosimetric administration the patient has normal color and there are few after-effects. After the old method, on the other hand, the patient is pale and drawn, he vomits and is in greater or less degree of collapse.

The controlling principle of this method, which the author considers the only safe means of administering the drug, is to gradually increase the percentage of chloroform vapor and, as soon as anesthesia is established, to lower it to the point where the intake equalizes the output from the lungs. No matter what changes may occur in the patient's breathing, safe strength—2 per cent—should not be exceeded, and even struggling does not call for a restriction of the supply.

E. K. ANASTHOS

Descaupentrie, M. General Anesthesia by Intramuscular Injections of Ether: New Anesthesia Apparatus, Particularly for Etherization, Based Upon the Principles Derived from the Latter (Anesthésie générale par les injections intramusculaires d'éther. Un nouvel appareil à anesthésie, en particulier à étherisation, basé sur les principes qui en découlent). *The Lancet* (Cong. Med. Lond.), 19, 3, Aug.

By Surg. Gynec. & Obst.

General anesthesia may be induced without danger by intramuscular injections of ether if it is given in successive small doses (about 5 cc.) and injected slowly into large muscle masses or thick spongy tissues to limit the vaporization and keep the vapor under tension.

The best place is the gluteal muscles. The entire dosage varies, according to the weight of the patient, about cubic centimeter to kilogram of weight. There is little danger of giving too much. The first pain is keen but is very quickly over. After the anesthesia, the patient complains of feeling of heaviness in his legs. To avoid the initial pain, the anesthesia should be begun with few inhalations of ethyl chloride or chloroform. A few drops of chloroform may be given so that no danger while the patient is anesthetized. This makes

the narcosis more profound and permits of the use of a smaller quantity of ether.

The method is simple. It greatly facilitates operations about the face and neck and dispenses with the necessity of having an anesthetist. It enables a surgeon to operate alone in emergency cases under general anesthesia. It differs from ordinary etherization in that by it the ether enters the blood without any admixture of carbon dioxide and is warm (43°) when it enters the alveoli of the lungs.

The anesthesia apparatus described is constructed to carry out these principles. It gives rapid calm, no regular narcosis without pulmonary complications and contra-indications. It combats anesthetic shock in that it does not lower the patient's temperature. During the first ten minutes it raises the rectal temperature from two to five tenths of a degree.

The apparatus permits of obtaining the anesthetic mixture that is most favorable to cure. Some patients abhor the odor of ether in such cases anesthesia can be begun with a trace of ethyl chloride. The apparatus does not inhibit the exhalation of ether vapor in the operating and the risk of explosion. The anesthetist is that a surgeon who works daily in ether, no becomes gradually fatigued and intoxicated with ether.

CW. Whitney, J. T. Oil Ether: an Attempt to Abolish Inhalation Anesthetics. *T. Internat. Cong. Med., Lond.* 93 Aug. By Surg. Gynec. & Obst.

Experiments on animals, under the direct supervision of Prof. George Wallace of the Pharmacological Department of Bellevue Medical College are conducted for the purpose of studying the anesthetic value of ether when introduced in solution into the rectum. A 5 per cent solution of ether in normal saline solution was used first, about 500 cc. being injected into the colon. It is found to reduce the bulk, Grunthney suggested employing oil instead of saline solution. Experiments under the supervision of Prof. Charles Baskerville, Director of the Department of Chemistry of the College of the City of New York, were then made to determine the relative rapidity with which the ether escaped from the oil in which it was dissolved, the solutions compared being of the same strength and subject to the same temperature. Cod liver oil, olive oil, neat-foot oil, caron oil, paraffin (Kumman mineral oil), milk, and cream were used. It was found that caron oil parted with the ether in nearly one-fourth of the time that was required by the other substances.

Ten successful experiments were carried out upon dogs, with complete anesthesia and no alarming symptoms. The ether as given in solution in cotton-seed oil from 55 to 75 per cent the amount of ether injected being from 50 to 75 cc. The shortest time required for the establishment of surgical anesthesia was five minutes, the longest time fifty

minutes. The duration of the anesthesia after the ether injection was stopped averaged about one hour. In no case was there evidence of more than a mild irritation of the rectum following the ether injection, and such irritation passed off within twenty-four hours.

In the clinical experiments the oil-ether solutions, varying from 4 to 75 per cent, were employed. It was found that solutions of 75 per cent proved most satisfactory in both animal and human subjects. The most gratifying results were obtained from the use of 200 to 300 cc. of a mixture of 6 oz. of ether and oz. of oil. Anesthesia thus induced was ideal. Pulse and respiration were normal, there were no mucous riles, and no after-effects such as nausea or diarrhea.

One of the underlying thoughts in developing oil ether anesthesia was to prevent certain dangers that attend intravenous anesthesia. The fact that the only apparatus needed is a small catheter and a funnel into which to pour the mixture is a strong argument in favor of this method. To practitioners compelled to work alone it should be of inestimable benefit. On account of the gradual and rapid evaporation from the lungs it would appear to be at least a comparatively safe method of inducing anesthesia. Mucus and saliva are absent and the patient's lungs and stomach are spared.

The preparation of the patient is the same as for ether vapor anesthesia per rectum. A cathartic of castor oil is given the night preceding the operation and is followed in the morning by soap-and-soda enemas one hour apart, or until the return comes back clear. The patient is then allowed to rest for thirty to sixty minutes, when suppository containing the following substances is inserted. For adults 3/4 gr. powdered opium and 5 gr. chloroform; for children 3/4 gr. powdered opium and 5 gr. chloroform. One hour after the insertion of this suppository the oil-ether is introduced. It is injected slowly in order to avoid irritation or other untoward effects.

The author gives the histories of two perfect cases illustrative of the application of the method to the human subject. In each the anesthesia lasted forty-five minutes.

Both clinical and laboratory experimentation with the method is being continued, and reports will be published later.

Caillaud, E. Prolonged General Anesthesia with Ethyl Chloride (L'anesthésie générale prolongée au chlorure d'éthyle). *T. Internat. Cong. Med., Lond.* 93 Aug. By Surg. Gynec. & Obst.

Ethyl chloride is very much superior to chloroform or ether for producing general anesthesia because it is less toxic.

However ethyl chloride anesthesia can be produced only by following certain rules that are given by the author and by using an apparatus that permits mixing in definite dosage of ethyl chloride with another anesthetic and an abundant

supply of air or oxygen. For a ml. to or two the beginning of the anesthesia few drops of chloroform should be given with the ethyl chloride. After that the ethyl chloride should be continued alone. The thoracic port five hundred and fifty-eight cases of anesthesia given with this apparatus (four hundred and fifty-three of which are prolonged anesthetics for various major operations (abdominal, liver, brain, gynecological, etc.)). Not a single accident occurred. Anesthesia takes place rapidly — one or two minutes. The result is excellent because the organism is submitted to a minimum of irritation.

Schlimpert: Sacral Anesthesia (Sakralanästhesie)

Deutsche Wochenschrift für Chirurgie 9: 33.
B. Zerkow, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

The result from low anesthesia: 4 cases or perfect, 54.4 per cent. In per cent halation narrowness reported to amount of the long duration of the operation. 1.5 per cent certain more of the chloroform had to be used from the beginning. 1.4 per cent the anesthesia brought length.

In 54 cases of high anesthesia the result were perfect 1.1, 40.5 per cent. 1 liter of chloroform had to be given on an average of prolonged operation. 1 per cent 1.50 per cent the anesthesia was uncomplicated. 1.50 per cent negative. The only thing was blanching of the face, which lasted for three hours and as a result of this a rise in the blood pressure. The highest average of the blood of the operation especially heads.

The indication for the different forms of anesthesia follows. The low form of sacral anesthesia should be used for low operations, chloroform and ether for high operations of short duration, complicated appendectomies, lumbar anesthesia for high operation. In women with weak heart and for very old women and high sacral anesthesia for all other cases.

T. Miller T. New Methods in Spinal Anesthesia

T. Internat. Cong. Med. Lond. 3. York.
By Surg. Gynec. & Obst.

Extradural anesthesia, which was given up for some time has been resumed. The injection is made at the sacro-coccygeal orifice the needle being introduced parallel to the axis of the canal, which generally makes an angle of 45° with the surface of the body. Stovaine and later novocaine have been used. Schlimpert gives, along with the latter, veronal, scopalamine, morphine, or scopalamine-morphine to produce narcosis. The anesthesia lasts three quarters of an hour with the low injection, and from half to three quarters of an hour with the high injection. The accident occurring as a result of this are not grave. The technique is long and complicated and the results uncertain.

Intradural injections are either inferior or

medullary or superior (Joussieu) between the first and second dorsal, and though seemingly dangerous, has given satisfactory statistics. At first cocaine was used, then stovaine then tropicocaine and finally novocaine. The latter is now used by most operators who practice spinal anesthesia. All of these anesthetics are today used in combination with various substances.

Joussieu uses strychnine with stovaine to avoid the accident attributed to the latter. The mortality varies according to different statistics. The causes of death are often unknown. Spinal anesthesia is contraindicated in very emotional subjects, in faint phobics, those suffering from medullary affection and in operations which extend beyond the umbilicus.

Le Fillatre: General Anesthesia by Cocaine Anesthesia of the Lumbo-Sacral Region (Anesthésie générale par rachicocainisation). *T. Internat. Cong. Med. Lond.* 3. York. By Surg. Gynec. & Obst.

Le Fillatre of Paris 15 years ago succeeded in obtaining constant analgesia not only of the trunk and the upper limbs but also of the head and neck by giving the injection at the level of the first sacral vertebra. The first first employed stovaine to amount of the cephalorachidian fluid. He injected 100 mg of solution of cocaine sterilized to 100°C. (carefully prepared) and under the skin of the patient he injected milligrams of strychnine 1/5 centigram of part 10. At the end of 10 minutes after the total anesthesia of the head and the neck was obtained.

The duration of the anesthesia varies from half an hour to 1 hour for the head and the neck and from half an hour to three hours for the subumbilical region.

Since 1900 the author has produced two hundred and forty-eight analgesia of the subumbilical region. Eighty-four of which are for surgery of the neck and head.

Thirteen cases have been produced (thousand eight hundred and thirty-seven subumbilical or upperumbilical analgesia) many of which are on the same subject and he has never noted the least action either immediate or late.

Lumbar puncture made at the end of the early-four hours also that the cephalorachidian fluid is normal.

Brunner F. Paralysis of the Phrenic Nerve after Plexus Anesthesia. *Zur Frage der Phrenicusanästhesie nach Plexusanästhesie. Deutsche Wochenschrift für Chirurgie* 9: 33. By Zerkow, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

The thoracic report is as with a picture similar to the recently given in plexus anesthesia, but without preceding plexus anesthesia. In both cases the operation was performed.

The first case was that of an old man whose appendix and left lobe of the thyroid were resected simultaneously under chloroform narcosis. Several

hours after the operation the patient complained of severe dyspnea, as if there were spasm of the diaphragm. The pulse was 8. There was polypnea and pain in the abdominal wound. When the dressings were changed no hemorrhage was found in the wound of the neck. In the morning normal breathing was resumed again.

The second case was bilateral resection performed for Basedow's disease, with bilateral anesthesia according to Braun. Four hours after the operation the patient complained of difficulty in breathing and pain in the left chest. Two nights later there was orthopnea, jerky cogwheel expiration, and pain below the left shoulder blade. On the fourth day the X-ray showed a high-standing diaphragm on the right side (2 cm. higher) and free motion on both sides. On the sixth day the respiratory difficulty and pain had disappeared.

The author is of the opinion that an injury irritation of the pleura was present, caused possibly by a hemorrhage extending along the pleura. This explains the free interval. He has never before observed this in 900 gonter operations. Paralysis of the phrenic nerve or irritation, seems to him improbable for many reasons. Sauerbruch does not report any such phenomena in repeated phrenicotomies according to Kulenkampff the phrenic nerve does not carry any fibers sensitive to pain, Oehlecker believes that the pain must have some other source according to Hirschler long-continuing paralysis and pains are due to nerve injuries, and not to the effect of the novocaine suprarenin solutions.

B. ULLENKAMPFF

Gernsbeck, "Narcosis," New Hahnemann Local Anesthetic ("Narcosis" on basis Hahnemann-Lokal-Anästhetikum) Deutsche Zeitschrift für Chirurgie 9 3, xvii, 5

By Zentralbl. f. d. ges. Chir. Gernsbeck

The author has attempted to reduce the toxicity of cocaine by adding hamamelis extract. In this way he has succeeded in diminishing the cocaine content to 0.75 per cent and obtaining the same effect as that given by a 1 per cent cocaine solution.

The mixture he calls narcosis. In contrast to suprarenal preparations, the hamamelis extract has an anesthetizing power but not toxic body and does not produce muscular contraction. It has tonic action on the heart and accelerates the healing of wounds. The author has used this mixture in about 1,000 cases with good results. H. K.

SURGICAL INSTRUMENTS AND APPARATUS

Connell, K. An Apparatus—Anesthetometer—for Measuring and Mixing Anesthetics and Other Vapors and Gases. Surg. Gynec. & Obst. 9 3, xvii, 415 By Surg. Gynec. & Obst.

The author describes an apparatus developed from a commercial gas meter which measures and records the passage of air and other gases mixes two or more gases automatically in the desired proportion, and also feeds air and volatile liquid automatically into a common mixing chamber.

Delivery of these accurate mixtures to the patient may be effected by a closed face mask. After surgical anesthesia has been once established however, the author prefers to deliver by insufflation. He describes his method of pharyngeal insufflation, which consists of insufflating into the lower pharynx per moment of the entire bulk needed for inspiration of an accurately prepared anesthetic mixture. For routine delivery this method is preferred to tracheal insufflation.

The percentages of ether vapor in air required by man have been established by this apparatus as follows: The most advantageous delivery curve rises during primary anesthesia to 35 or 45 per cent by weight of ether vapor to air at sea level. With the beginning of relaxation the curve falls to 26 per cent and within a few minutes to 22 per cent at which level it remains for five or ten minutes. The percentage is then gradually lowered to 5 per cent by the end of 40 minutes. This percentage has been found to establish the proper anesthetic tension for the indefinite continuance of full surgical anesthesia. Lower percentages are used only where light anesthesia is desired. The one variable factor is the length of time and the difficulty in maintaining a particular individual to this uniform anesthetic tension of 48 millimeters, an equivalent of 5 per cent ether vapor pressure in the alveolar air. The time varies from 5 minutes in an infant up to 40 minutes in robust alcoholics.

The author discusses the utility of heating anesthetic mixtures, and concludes that artificial heat is of importance only to effect accurate vaporization, since the actual loss of body heat through warming inspired gases is negligible.

Accuracy of dosage and automatic delivery have increased the safety and efficiency of ether administration and decreased the shock of operative procedure and the sequelae of ether anesthesia.

SURGERY OF THE HEAD AND NECK

HEAD

Kahn, L. M. Congenital Bilateral Fistula of the Lower Lip. Am. J. M. Sc. 9 3, cxvii, 415

By Surg. Gynec. & Obst.

The author reports twenty-two cases from the literature and one of his own. The latter is a patient

three years of age who shows no other facial or congenital deformity and is perfectly healthy. The family history is negative. The fistulae open on either side of the median line of the lip. The slightly oval opening admits a small probe which may be passed downward and inward toward the median line and inserted into fluid pockets just

beneath the mucous membrane on the inner surface of the lip. The fistulae are about 5 cm in length. They do not communicate with each other but are separated by thin fibrous partition. The openings are filled with a glairy transparent secretion.

I reviewing the cases reported, Kahn finds that the condition is usually accompanied by other congenital deformities such as cleft palate and hare-lip also that it frequently occurs in 1 or more members of the same family. He offers the following explanation: On either side the well-known median notch seen to persist sometime during intra-uterine life after fusion of the 2 halves of the lower lip has been completed, it is not unusual to detect slight secondary notching on either side. This becomes deeper its deepest portion becoming gradually buried until shortly a bulbar tract lined with mucosa is formed. The treatment indicated is excision.

II A. Porro

Coleman, F. The Treatment of Fractures of the Mandible. *J. Internal Cong. Med. Lond.* 9:3
1907 By Surg. General & Obst.

Before considering the treatment of fractures of the mandible, few remarks on their etiology, position, and character will serve as an aid in determining the method of treatment to employ.

Fractures of the mandible are almost invariably the result of direct violence. The seat of the fracture is however not infrequently on the side opposite to that which sustained the injury.

Fracture of the mandible occurs rarely when the teeth are occluded as under these circumstances the maxilla and mandible become for all practical purposes one bone so that the bruise of the blow is transmitted through the condyle of the jaw to the glenoid fossa, producing concussion of the brain and in some cases fracture of the base of the skull.

The signs and symptoms of fracture of the jaw do not fall within the scope of this paper but the author wishes to mention a sign that has so far escaped attention or has not been appreciated.

The sign in question is produced by an effusion of blood into the tissues of the floor of the mouth and gives rise to a very characteristic appearance of its mucous membrane, which becomes raised, forming bluish, tense swelling under the front part of the tongue. The sublingual fold lying between the tongue and the mandible is chiefly involved in this effusion as the mucous membrane elsewhere is too firmly bound down to bulge in this manner.

This sign alone will serve to differentiate an external bruise from an injury that has produced additional dislocation of the jaw for it is difficult to understand, from an anatomical point of view, how an effusion of blood can take place into this space bounded externally by the deep cervical fascia and the body of the mandible unless a lesion of one of these structures has occurred. We can disregard the deep cervical fascia, which is not structure readily torn, and therefore surmise that the breach has involved the body of the mandible.

The author has found this sign to be present almost invariably and to form as conclusive evidence of fracture of the mandible as effusion of blood into the orbital cellular tissue is evidence of a fractured base.

In young children it is sometimes impossible to make diagnosis immediately after the injury except by the use of skiagraphy or by the aid of an anesthetic, not is it strictly necessary. The parts are so much inflamed and swollen that effused blood that even if fracture were detected, it would be harmful as well as painful to apply pressure in any form over the swollen tissues. After a few days, most of the blood and exuded lymph will have become absorbed, the inflammation will have subsided, so that the mouth can be opened to greater extent and more thorough examination can be made with view to diagnosis and subsequent treatment. Even if using of the bony fragments be contemplated, this operation will be rendered far easier and less risk of sepsis will be incurred if it be delayed until absorption of some of the inflammatory exudation has taken place.

Fractures in children can usually be treated satisfactorily with metal guttae, perches or paraffin splints inserted into the outside of the jaw. In adults if there be but little tendency to displacement of the fragments, the same methods will suffice.

Out of some 5 cases of fracture of the jaw that have passed through the author's hands for treatment he has only once been obliged to apply an internal splint for a child.

A vertical splint will allow slight movement at the condyle of the jaw but if the splint be carefully moulded very little movement will take place in its continuity.

The chief value of external splints is to keep the jaw at rest, when there is not much tendency to displacement and to act as a danger signal in protecting the patient from further injury. The four-tailed bandage serves practically only the latter function.

Wiring the teeth together although a method that dates back to the time of Hippocrates, should rarely be used for retaining complete fractures of the mandible in position, and never if other methods be available. The teeth on either side of a fracture, if not already loose and tender, will rapidly become so when this unnatural strain is put upon them.

The principle of all mechanical appliances in the treatment of fractures of the jaw is to retain the fragments in position with minimum of discomfort to the patient and with the least interference to the function of the part.

The internal splints employed for fracture of the mandible conform largely to three types, viz.

Those which utilize the teeth as their abutments in controlling the fragments, e.g. Hammond splint, Tomes splint.

Those which utilize the teeth and body of the jaw as their abutments in controlling the fragments, e.g. Kingston splint, Ackland splint.

3. Those which utilize the teeth of the opposite jaw (i.e., maxilla) as their buttments in controlling the fragments. e. Gunning splint. Stern splint.

Some of the splints used combine two or more of these principles or are reinforced by other means.

Before any form of splint is adapted to the jaw some attempt should be made to get the mouth into a clean condition.

Even if the mouth be clean and healthy at the time of the fracture it rarely remains so subsequently owing to the impairment of mastication and degradation that results. Apart from this, there is a natural disinclination on the part of the patient to carry out the ordinary routine of cleanliness on account of the discomfort. Certainly nor can this be performed satisfactorily by the nurse or surgeon in charge.

Moulds of the jaw are obtained from the gutta-percha, or plaster pressed over the teeth. The material used being retained in a cup or tray. A counter part in plaster of Paris is made from the mould. There is no need to reduce the fragments while taking the impression, but the jaw should be carefully tended. The plaster model is as though in the line of fracture should there be displacement, and the splint fitted to the corrected model. Models of both jaws must be obtained when the splint is to take its bearings on both these parts, or if the articulation of the broken jaw requires some rectification.

If metal plate or frame is to be fitted to the teeth dies must be obtained.

Splints made to fit the teeth gums. Both of these parts should be made slightly loose when there is difficulty in reducing the fragments, for although the deformity may be readily corrected on model it may be less easily rectified in the mouth so that allowance must be made for the difficulties that may be encountered restoring the parts to their correct alignment.

When the splint is ready for insertion, the fragments are reduced and an anesthetic is sometimes useful at this stage.

Splints are usually retained in the mouth for six to eight weeks. Even if the fragments have not come into accurate position, and slight gap exists between opposing teeth in the region of the fracture, this will be almost entirely effaced within six months a year owing to the elongating of the teeth until resistance from occlusion is offered.

Some two or three years ago the author devised a clamp that he hoped might be of great service in fixing the fragments of broken jaw, and obvious the necessity of making special splint for each patient.

The principle of the clamp consisted of a strong steel spring which could be opened to enclose the alveolus, and then released embedded itself in the bone by means of its projecting claws.

The splint was applied as follows.

The patient was placed under an anesthetic the fragments of the jaw were reduced the clamp was

opened (with special instrument) and forced over the jaw in the region of the fracture and then released, thus the clamp was left embedded on each side of the fracture.

The sharp projections of the claws at the extremities of the limbs of the clamp readily penetrated the mucous membrane but did not sufficiently penetrate the bone to fix the fragments securely. The ease with which the clamp could be inserted and removed, its cleanliness, and the ready access to the site of the fracture that it allowed, were advantages which appealed strongly in its favor. Moreover the clamp was adaptable whether teeth were present or not and could be used over and over again.

The author has employed the clamp in one case, and although the result was excellent, he is unable to say how much this result was due to the use of the clamp as in most cases of fracture of the jaw the result is satisfactorily provided there is no great tendency to displacement of the fragments.

The clamp was left on for six weeks or more during which time the patient experienced but little discomfort.

The principle of the clamp seems worthy of attention, and if only some means can be devised by which the hard tissues can be penetrated as well as the soft the clamp could form a useful means of retaining fragments of the jaw in position.

Wiring the fragments together is not a method of treatment often required for fractures of the mandible.

If Hammond or metal-cap splint has been utilized, semi-solid food may be given within a day or two, and after two or three weeks this may be gradually replaced by food incorporated with, finely divided solid food.

Those splints that fix the jaws to each other necessitate the maintenance of a fluid diet until the splint is removed. The spout of the feeding cup should be fitted with an India rubber tube which can be passed into the space afforded by the splint.

The opening of abscess may be required during the treatment of fractured jaw. This is usually only a temporary expedient the abscess is usually due to necrosed bone and until this is removed or has become exfoliated, the cause of the abscess remains. Sequelae of the body of the mandible revery slow in separating, and a sinus may persist for a year or more.

In neglected cases the tissues around the jaw may be riddled with abscesses discharging through puckered sinuses.

Ankylosis of the temporo-mandibular joint is a frequent sequel of fracture of the condyle.

Failure of bony union is uncommon. Gurlt met with only two instances of failure of union in his 43 recorded cases, and both of these were subsequently cured by operation.

The chief causes of failure of union are want of rest of the fragments and necrosis, especially if the latter be extensive so that the ends of the lying bone are widely separated.

Van Lins, K. Suppurations of the Frontal Sinus (Über eiternde Sinushöhlenentzündungen). *Arch. f. klin. Chir.* 93, 1914, 196.
By Zentralbl. f. d. gen. Chir. 1. Grenzgeb.

Suppurations of the frontal sinuses originate exclusively in the nose. The most frequent cause is coryza and influenza. Much more rarely the inflammation is due to neighboring syphilitic or tuberculous processes or trauma. Both acute and chronic disease is a source of constant danger because the infection may spread through congenital clefts in the bone or by way of the veins and lymph vessels, but principally through necrosis of the bone. The tactlessness of the bony wall is chiefly responsible for the local character of the affection. The thin bony wall is most frequently destroyed. The consequences are increases in the orbit which in the most favorable cases perforate the upper eyelid, but frequently produce extensive orbital phlegmons. Necrosis of the tensor of the frontal sinus is less dangerous as the pus can be easily reached under the skin of the forehead. Most rarely does the disease affect the posterior wall in which case it leads as a rule to intra-cranial complications. In one of the days the bone may be destroyed by an acute violent inflammation and fatal meningitis may develop. Extradural abscesses become also been observed. Meningitis serosa is rare and more is favorable for the prognosis.

Diagnosis of frontal sinus suppurations with bony formations is usually easy, especially in the presence of pus can be determined in the middle nasal passage. While uncomplicated frontal sinus suppurations with abscess formations are successfully treated endonasally, the abscess-producing forms are naturally treated from the outside. Besides the location of the abscess the frontal sinus must be opened widely. Kuhnt, Kilian, and Roedel have pointed out the most useful methods. Their choice depends upon which of the walls is diseased. If the cranial contents are affected purely surgical principles of treatment are employed. Anodi gives suitable directions for puncturing the frontal lobes. Thrombosis of the longitudinal sinus also must not be overlooked. P. error.

Nimier II. and Nimier A. On the Treatment of Fractures of the Petrous Portion of the Temporal Bone (Sur le traitement des fractures du rocher). *Rev. d. chir.* 93, 1914.
By Journal de Chirurgie.

Admitting that non-infection of the tympanic cavity is of great importance in majority of fractures of the petrous portion of the temporal bone the authors on the basis of the statistics of Phelps and Valentin, do not advise surgical interference in these fractures. In most cases drying of the auditory canal and the application of an absorbent dressing to the external ear is sufficient. When there is suppuration in the middle ear either before or after the fracture, Nimier and Nimier believe that it should be the rule not to operate. Neither otor-

rhagia or escape of cerebro-spinal fluid are, according to the authors, per se, indications for operation. On the other hand, if a infection is present as confirmed by spinal puncture, then a decompression with permanent drainage is indicated. The subtemporal trephining is preferred to other craniotomies.

Decompression is indicated in cases of extradural hematomata in these fractures, especially if the mastoid ecchymosis comes at the location of the fissure. The authors prefer the submastoid route, the transmastoid with exposure of the lateral sinus. If the hematoma is intradural (supposing that the localization can be made clinically) the submastoid route is preferred.

In case there is a bone disease the authors, without admitting the absolute necessity of operation, recommend enlarging the opening in the tympanum. If there are concomitant encephalic troubles, they advise an operation with respect to the site of the bone disease rather than a preventive operation.

If the infection leads to serous meningitis or meningitis, operation on the ear generally suffices, as is the case in more severe infections, here however more radical operation including the cerebellar fossa and the submastoid region is necessary.

J. O'Connor.

Manges, W. F. Findings in Obsolete Head Lesions. *J. Am. Med. Ass.* Boston, 93, Oct.
By Surg. Gynec. & Obst.

The subject is treated under two heads: (1) The findings in the skull bones, (2) the findings in the brain and its processes. The findings in diseases of the accessory sinuses and mastoids, and diseases and irregularity of the teeth and facial bones are not included.

Various subjects discussed are the findings in the skull bones due to external and internal influences, the immediate results of injury the nature and extent of fracture, etc. remote result overlooked fractures the organization of blood clots osteomyelitis periostitis and factors tending toward malignancy granules, etc. Abscess of the brain is most frequently due to infection from skull bones or their processes, hence roentgenographs will be of decided value in showing the source of infection and help to differentiate it from other conditions. Even the more superficial abscesses may be localized by this means. Atrophy of the inner table of the skull due to pressure seems to show on the roentgenographs the location of tumors, cysts, etc. when they are superficial. General thinning of the skull bones with depressions corresponding to the brain convolutions occurs when there is internal hydrocephalus from any cause. In external hydrocephalus the bones may be thin but the convolutions are absent. The skull sinuses are apt to be separated in both. A certain number of brain tumors are dense enough to cast diagnostic shadows. Nearly all the growths at the base of the brain will produce internal hydrocephalus. Reference is made

the article by Bailey and Jelliffe on pineal tumors, and to abstracts of all reported cases (*Arch. Int. Med.*, 91: viii, 85.) Internal hydrocephalus was noted in nearly every case. This is clearly shown on roentgenographs.

The numerous investigations made of pituitary conditions are referred to only briefly. In twenty such recent cases with obscure head symptoms the author has found shadows of calcareous bodies in the region of the pineal gland. One case was an acromegalic, two had exophthalmic goiter and several were epileptics. Nearly all had severe headache at times and practically all had some irregularity of the sella turcica or chnoids.

Rasmussen, W. J. The Question of Surgical Treatment of Cortical, Traumatic or Non-Traumatic, Epilepsy (*Zur Frage der chirurgischen Behandlung der corticalen, traumatischen und nicht traumatischen Epilepsie*). *Arch. f. Klin. Chir.* 93: ci 075. By Zentralbl. f. d. ges. Chir. i. Grenzgeb.

According to the latest theories regard to the nature of epilepsy, strict differentiation between organic and genuine epilepsy is not permissible. In the majority of all the cases of genuine epilepsy examined systematically, local affections have been found. Other forms begin as focal spasms and assume the genuine character gradually. Local affections lead in time to permanent changes of diffuse character.

Of the local diseases the cortical and subcortical affections are especially adapted to surgical treatment. In some cases, however, the decision of the epileptogenous cortical centers has resulted in cure when the local organic changes were remote. In traumatic epilepsy changes caused by the trauma are found in the brain or in the covering layers. In traumatic Jacksonian epilepsy also without visible changes the removal of the centers is indicated. If general epilepsy without localized symptoms occurs after trauma the formation of a valve is indicated.

The author has operated in fourteen cases of non-traumatic Jacksonian epilepsy. One of these patients died at the end of nine months from purulent ependymitis of the ventricles of the brain. In more than half of the cases of epilepsy the results were good and only three of four were negative. In nearly every case bipolar stimulation was used to find the epileptogenous centers. In some cases this caused a pronounced epileptic spasm. In some only the beginning of spasm and in others only simple physiological contractions. After the center was found, the cortex was amputated in layers from seven to ten millimeters in thickness with sharp knife or spoon until the irritation caused no or only slight epileptic contractions. The center was amputated also in cases where no epileptic cramps could be elicited. Sometimes paralysis occurred but in every case it soon disappeared. A disturbance of the stereognostic sense lasts longer but anaesthesia disappears quickly. In three cases of Koblenz's epilepsy a operation was per-

formed with good results the arm center being excised in each instance.

WORMER

Rehn, E. A topolastic Fat Transplantation for Defects in the Dura and the Brain (*Die Verwendung der autoplastischen Fetttransplantationen bei Dura- und Hirndefekten*). *Arch. f. Klin. Chir.* 93: ci, 66.

By Zentralbl. f. d. ges. Chir. i. Grenzgeb.

With the introduction of dura plasty the treatment of traumatic epilepsy has reached a new and successful stage. The result obtained by the author with autoplasmic fat transplantation has been very favorable. In order to judge the method, careful selection of suitable cases of purely typical partial and general traumatic epilepsy is necessary. A case can be pronounced cured only on the basis of an observation made from three to five years after the operation.

The results of dura plasty with transplantation of peritoneum, peritoneum and fascia also are discussed. The observed change of the transplanted fascia and pieces of peritoneum into fatty tissue the author considers a very useful sign of adaptation and an essential fact for the cure of traumatic epilepsy. In experiment with autoplasmic transplantation of fat in dogs, he obtained a reactionless cure without the least disturbance of the central nervous system. The greater portion of the fatty tissue preserved all its constituents unchanged and became the permanent possession of the part of the body into which it was put. The histological changes were illustrated with drawings. The transplantation formed a basal plate of connective tissue which completely covered the defect in the dura. Becoming more and more tense, though retaining its fine character it formed a full substitute for the dura. Adhesions to the soft cerebral membrane could not be avoided, but as they formed only delicate connective-tissue strands they could always be easily loosened. On the basis of successful cases the author recommends the transplantation of fat also for the purpose of plugging defect in the ventricle.

Dr. Auer

Luck, H. W. H. Air in the Ventricles of the Brain Following a Fracture of the Skull: Report of a Case. *Surg. Gynec. & Obst.* 93: xviii, 37.

By Surg. Gynec. & Obst.

The author reports a case of a machinist who was struck by a trolley car sustaining a fracture of the frontal bone and skull. Twelve days later he was apparently normal as far as his mental state was concerned. A week after this, he had periods of mental confusion and melancholy otherwise he was normal except for increased knee jerks. The leucocyte count was 15,000. The eye grounds showed bilateral optic neuritis. The condition was diagnosed as due to intracranial pressure caused probably by an abscess.

A series of X-ray plates showed that the ventricles were enormously dilated with either air or gas. The

ventricle was punctured through a right-sided subtemporal opening. On exposure the dura did not bulge and was not particularly tense. No fluid escaped when the dura and pia were incised. A slight meningitis was noted. A needle was passed into the anterior horn of the lateral ventricle and the removal of the trocar was followed by spurts of clear fluid. Eight cubic centimeters of clear cerebrospinal fluid also escaped. Owing to the presence of the skull in the ventricle, small pieces of twisted rubber tissue was inserted into the chiasmatic cistern through suboccipital opening. Considerable clear fluid mixed with air passed from here also. The patient died still comatose the fourth day after operation when his temperature suddenly rose to 40° and he died.

At autopsy air was found in the ventricles. There was a lacerated wound of the base of the right frontal lobe beneath the anterior horn and over the fracture of the orbital plate which communicated with the frontal sinus. It was subsequently learned that the patient was probably forced up to the ventricles through the fracture of the frontal sinus during attack of convulsions. (Low and L. Cornwall.)

Brums. The Treatment of Tumors of the Brain and the Indications for Operation. *Rechnung der Gehirntumoren und die Indikationen für deren Operationen.* T. Internat. Cong. Med. Lond. 9-13, Aug. By Surg. Gybec & Olme.

Operative treatment of tumors of the brain is of two kinds: radical operations (like extirpation of the tumor), and palliative operations for the relief of the brain. The latter are usually primary, but if for any reason the radical operation is not successful, they may be secondary. The indications for the radical operation and the prognosis of this operation depend upon three things.

The nature of the tumor. The most favorable are the sharply circumscribed tumors and especially those that are extra-axial. Unfavorable are those having differentiation between the common infiltrating glioma and the sharply circumscribed meningioma. It is still very difficult.

The possibility of making possible general and local diagnosis. The general diagnosis may be difficult on account of increased hydrocephalus and the so-called pseudo-tumors. Local diagnosis is often impossible in cases of tumors of the right temporal and frontal lobes and is difficult in cases of tumors in the ventricular system and the corpus callosum.

The accessibility of the tumor. Tumors of the brain in the third ventricle are inaccessible to operative treatment as are also many of those of the medulla of the hemispheres. All others are accessible to surgical treatment with varying degrees of danger attending the operation. Primary palliative operations are indicated in cases in which though there is no local diagnosis, the general diagnosis is positive and the general symptoms are very severe. They are indicated especially if the vision becomes so impaired that blindness threatens.

Leri, A. Acromegaly (Ulnaropatie). *N. sch. d. Ver. med. 1913, IV, 351.*

By Zentralbl. f. d. ges. Chir. u. L. Grossen.

The symptoms and course of the disease are described in detail. The diagnosis, which is not spoken of, rests on the characteristic physical findings, is fully discussed. Cases which are not so evident the X-ray may be used to confirm the diagnosis. The sella turcica is markedly enlarged, the skull is not of uniform thickness, and the various sinuses are distinctly widened. The eminences posterior to the lambdoid suture are much more prominent than normal. X-ray pictures are especially useful in the beginning of the disease to prevent confusing it with those conditions which do not as a rule, involve the bones of the skull as well as those of the trunk and the extremities, but are confined either to one or the other, i.e. Paget's disease, rachitis, myxodema, leontiasis ossea of Virchow, acromegaly and the hypertrophic pneumatic osteoarthropathy of Alpers. The clinical picture of these various diseases is outlined sufficiently to bring out the differential diagnosis quite clearly. The objectively demonstrated changes in the hypophysis as etiological factor conclude the first part. In the chapter on the pathogenesis and pathological physiology the author discusses various hypotheses. It is of the opinion that the cause of acromegaly is to be found in a lesion of the pituitary gland, and that back of it lies a dystrophic condition of the gland. The fact that tumors of the hypophysis occur without producing acromegaly does not affect this theory since it has been shown experimentally that microscopically small portions of glandular tissue are sufficient for physiological function.

Whether the symptoms are produced by hyper- or hyposecretion is hard to determine as the argument for and against is not too conclusive. Of therapeutic measures such are possible, hypophyseal organotherapy is suggested if it can be proved that hyposecretion is the cause of the disturbance. The results with this method have been unsatisfactory. Radiotherapy is capable of destroying hypophyseal tumors and seems to give the best results if applied in the form of the crossed rays. Bédère applies the rays to the hypophysis through the mouth and either the forehead and parietal regions. The earliest possible treatment is credited with the best result. If both of these lines of treatment prove unsuccessful, surgical procedures are indicated. Horsch operates through the nasal cavity. After resecting the septum and the upper maxilla he enters the sphenoidal fossa. Of a only six patients operated upon by this method, three died and fifteen also showed improvement. Von Schöller and von Euseberg used the nasal route. The former by separating the nose from above and below, and the latter by making the flap from within outwards. By this method the ethmoidal cells are removed, the sphenoidal fossa opened, and its posterior wall removed. The results are gratifying. The severe headache subsides, the

bral disturbances were benefited and the osseous deformities were checked. Three cases that prior to operation had acute coryza died of meningitis. Acute nasal inflammations therefore are contraindications to operation.

Stendell, W. Th. Comparative Anatomy and Histology of the Myelophyl Cerebel (Zur vergleichenden Anatomie und Histologie der Myelophyl cerebelli) Arch. f. Anat. u. Phys. 1884, 1, 1-100. 4.

The thor has examined the series of Selachii, and the camel and the elephant has studied the functional relations of the part of the hypophysis in the production of secretion in spite of their common origin from the epithelium of the primitive buccal pit the anterior lobe and the pars intermedia must be regarded as a different ductless gland. The pars intermedia, which is poor in blood vessels, is closely connected in all animals to the posterior lobe which is abundantly provided with blood and lymph vessels and which, on account of its pure neuroglia structure must be regarded as conductor for the secretion of the pars intermedia rather than the secreting gland.

1. Some species of animals define paths from the secreting glands to the parts of the posterior lobe can be demonstrated. Since colloid is found only in old individuals in both the anterior lobe and the pars intermedia it must be regarded not as a normal secretion but as evidence of degenerative processes. However it can be taken as an indication of the course followed by the normal secretion which cannot be demonstrated. While the pars intermedia is most highly developed in the lower mammals and steadily decreases in size as it rises in the scale in man the hypophysis is most highly developed. Throughout the whole animal kingdom it is connected only slightly with the pars intermedia and the posterior lobe frequently by a connective tissue septum or small pedicle (Saxenopoda). In the amphibians the two parts lie side by side without any organic connection and in mammals they are separated by the hypophyseal recess. Therefore it is probable that the secretion of the anterior lobe is not conducted through the posterior lobe but is discharged directly into the blood.

The glandular cells are located on the epithelium of the blood vessels in the vessels coagulated secretion can often be demonstrated. The thorax agrees with Benda and Creutzfeldt as to the identity of the three kinds of cells of the anterior lobe that he regards them as only different stages in the development of one kind of cell. In the lower animal orders there are frequently masses of secretion lying between the vessels and cells.

As the result of his experiments the author concludes that the theory that the part of the hypophysis has different internal secretions is confirmed by the morphological character. TOLST.

Au toni, A. Experimental Compression of the Hypophysis (Sulla compressione artificiale dell'Ipofisi). *Atti R. Acc. Sci. Fis. Mat. e Nat. di Roma*, sez. II, 9: 15, 50.
By Zentralbl. f. d. ges. Chir. u. f. Grenzgeb.

The author claims priority over Chlasmernil in experimental investigations on the hypophysis in situ since his article "hypophysectomy" (Madovala, Edlt. Soc. Coop. Tip. 1912) gave a new method for studying the function of the gland. In order to overcome the severe traumatism which occurs during the removal of a gland for the purpose of eliminating its function, the author introduced a laminaria bougie close to the hypophysis for the purpose of slowly compressing it *in situ*. By means of this artificial compression it was possible to determine conclusively whether the explanation of the hypophysis symptoms (acromegaly, dystrophia adiposogenitalis, glycosuria, somnolence, cachexia, hypophyseopriva) on the basis of the mechanical action of the tumor is correct. The object was not so much to clear up the syndrome of acromegaly as to decide whether it is the pressure of the pituitary body or upon the neighboring parts of the base of the brain (that called forth the dystrophia, glycosuria, etc.).

Dogs are used for the experiments, but monkeys are better adapted. All of the animals were young and fully developed. The control dogs of the same sex, race and grade as the other. In the one the dry sterilized laminaria bougie was introduced between the hypophysis and the base of the brain. In the control the part was exposed the same way but the bougie was not introduced. In looking for the hypophysis the author used a new procedure for craniotomy (temporosphenoideal) similar to the Hartsley Krause method for resecting the maxillary ganglion. On the right side of the head a horseshoe-shaped flap, including skin, temporal muscle and pericranium was made. This was turned posteriorly. By opening the mouth the oronasal process was drawn down and the upper part of the pterygoid muscle was freed, and thus the anterior inferior part of the parietal the squamous portion of the temporal, and the greater wing of the sphenoid bones were laid bare. All of these parts were removed. The cranial sphenoid sinuses, and thus the brain could be raised so as to expose the hypophysis. The author recommends the same procedure for the operation on the human being. The method is preferable to Pulesco's, for laying the scalp flap down and one has less room below and must do more trephining besides being obliged to raise the brain much higher. It is also better than the modification of Chiassani in which the flap is not resected and the temporal muscle is cut across.

Preysing. A New Method of Operating upon the Hypophysis (Beitrag zur Operation der Hypophyse). Internat. Zeitschrift f. Laryngol. Rhinol. etc. 1913, 9:3. XIV, 40.

Preysing recommends operating on tumors of the hypophysis by resecting the hard palate. This

method is especially valuable for very large tumors, for which the author has used it in four cases. He believes it offers closer approach to and better view of the field of operation than any procedure that has been used previously. *Dixon.*

Holmgren, G. Operations on the Hypophysis by the Nasal Route (Über transnasale Hypophysenoperationen). *Hygiea*, 93, lxxv, 481.
By Zentralbl. f. d. ges. Chir. I. Grenzgeb.

The author gives a very detailed description of case of tumor of the hypophysis which he observed and operated upon. The patient was a male thirty-four years of age who had always been well previously. For 1 year he had had periodical headaches which varied in intensity and were more severe on the right than the left side. Visual disturbances were first noticed in the left eye and then in the right. After a year there was only partial perception of light on the temporal side of the right eye and the visual acuity of the left eye had decreased to 1/800. On admission to the hospital the patient could count fingers with the left eye only when they were held immediately in front of the eye. There was temporal hemianopia and the visual field was very much decreased concentrically. The right eye had not changed since the previous examination. On both sides there was marked optic nerve atrophy. Polyuria was marked. Great changes in the X-ray picture. The operation was performed. Technically it was as easy to the point of reaching the dura was reached. The entire roof and posterior wall of the sphenoidal sinuses as simply mass of soft red, pulsating tissue pushing forward into the sinuses. The operator could not find any definite tumor so he merely punctured the dura and curetted. The operation lasted for one and a half hours. Iodoform gauze tampons were placed in the nasal cavities. There was no drainage of the sphenoidal sinuses. The operation was followed by a transitory rise of temperature and complete blindness for a few days. This the author attributed to the fact that the sphenoidal sinuses and the cavities in the tumor had filled up with blood that was not entirely sterile. After a month the patient could count fingers at a distance of one meter from the left eye. The visual field increased on the nasal side. The pupils were not so pale as before the operation. Three weeks later the patient was well could read the time by his watch, and was able partially to carry on his work of farming. *Graham.*

Johnston, G. G. The Radiology of the Pituitary Body in Epilepsy and Pituitary Disorders. *T. Am. Röntg. Ray Soc.*, Boston 93, Oct.
By Surg. Gynec. & Obst.

Johnston has made X-ray studies of the pituitary fossa in some eighty cases of epilepsy which included principally patients who developed epilepsy between the fifteen and thirty-fifth year and did not include patients who showed epileptic attacks as

part of the symptom-complex attendant upon pituitary trauma. He has been struck by the practically constant occurrence in such cases of marked hypertrophy or hyperostosis of the posterior clinoidal processes which results in an apparent roofing of the fossa with consequent encroachment upon and interference with the posterior lobe of the pituitary.

Attention is called to the work of Cushing, who has shown that posterior lobe hypopituitarism will produce epilepsy and believes that this is the probable explanation of the cause of the attacks in the class of patients described. He shows repeated examples of this type of anatomical deviation in this class of cases and states that the feeding of posterior lobe extract to such patients is followed by interesting results.

The author makes no attempt to explain the occurrence of the hyperostosis beyond the statement that syphilis seems to play a part and that in some of the cases the process is apparently active. He makes provision for the examination of large number of this class of patients in order that the true percentage showing this condition may be determined. He believes that in some of the cases reported, the gland is so interfered with that its functional activity is hampered and in most of the cases calcareous degeneration of the gland was apparently going on. In many of the cases shown, the shadows of the anterior and clinoidal processes not only meet but decidedly overlap. In his own series of cases this condition was found to be present in greater or less degree almost invariably.

In order to be of value the examination must be made with strict attention to the planes of the skull so that distortion may be avoided. In the cases shown and described, pituitary tumors are excluded although a number of such cases showing epilepsy as one of the symptoms were classified and described separately.

The epileptics examined were selected by the neurologists, McKennan, Henninger and Mayet. Cerebropathy, cerebral syphilis, etc., were excluded.

NECK

Nicoll, J. H. The Avoidance of Unpleasant Scar Deformities in the Operative Treatment of Cervical Lymphadenitis. *Glasgow M. J.*, 1913, 8.
By Surg. Gynec. & Obst.

Reference is made by the author to the changed attitude that the profession has taken toward the treatment of tuberculous joints. A few years ago the attempt was made to remove all of the tuberculous tissue in connection with tuberculous joint. Nowadays much more conservative measures are followed and more dependence is placed upon the patient's ability to overcome the infection when slight stimulus is given either through the removal of part of the tuberculous material, the injection of some stimulating drug into the region, or combination of both measures. The same change toward

conservatism has been noticed in the treatment of tuberculous lymphadenitis especially that of the cervical region. The radical operation is the clean removal of all of the diseased glands has in part at least, given way to a more conservative and less disfiguring measure.

The operations which the author emphasizes especially are Treves operation and Dollinger's operation.

The Treves operation is performed as follows. A small incision is made, usually in the region of and parallel to the clavicle. Through this incision the enlarged glands are tunneled out by the dissecting finger. A small gauze wick is placed in the opening for drainage.

The Dollinger operation is very similar but is intended primarily for operations upon glands in the occipital region. The incision is made in the hair line and the lower flap is turned down so as to expose the underlying glands. The latter are then removed as much as far as possible and the wound closed with small gauze drain.

J H SIMMS

Morestin, M H. The Excision of the Groups of Cervical Lymph Glands in Cancer of the Mouth and of the Pharynx (*Evidences des gites ganglionnaires cervicaux dans les cancers de la bouche et du pharynx*). *J de chir.* p. 3, 2, 1937.
By Surg. Gyroc & Oudet.

Morestin contends that the doubt in prognosis in cancer of the mouth has been due to delay in surgical treatment and to too-restricted operations. Cancer of the mouth and pharynx remains strictly local for only a very short time; they extend very rapidly into the lymphatics. On the other hand they very rarely form distant metastases, and thus can be considered quite favorable for complete eradication of the disease provided the surgeon regards not only the initial lesion, but also the entire lymphatic apparatus which drains the region of cancer that should be removed.

All cancers of the buccal mucous membrane the lip, the cheek, the floor of the mouth, the tongue, the pharynx, the nasal fossae, and the jaws, all cancers originating in the skin which have infiltrated the depths, and all cancers of the parotid demand absolutely the extirpation of the corresponding groups of cervical glands. This extirpation may be uni- or bilateral; it can be done at the same time with extirpation of the primary growth or may precede or follow the latter. The operative technique varies somewhat according to the site of the primary lesion, the degree of involvement of the gland, whether they be movable or fixed to surrounding tissues, and the degree of the resistance of the patient.

In the cases in which the cervical nodes are not palpably involved, but are to be removed as part of the treatment of the disease, Morestin proceeds as follows. The head is turned slightly away from the field of operation. The incision comprises at first three branches, the center being at the superior border of the thyroid cartilage, a little

anterior to the sterno-clavicular muscle. From this center one incision is carried forward to the symphysis of the chin, the second goes to the anterior border of the mastoid process, and the third travels downward and backward to the clavicle at the posterior border of the sterno-clavicular muscle. In some cases it is necessary to make a fourth complementary incision extending backward from the inferior end of the third incision along the superior border of the clavicle. The three flaps just outlined are dissected, the upper to above the inferior border of the mandible, the anterior as far as the median line, and the posterior freed from the aponeurosis of the sternomastoid, well posterior to this muscle.

If the mandible, the anterior as far as the median line, and the posterior freed from the aponeurosis of the sternomastoid, well posterior to this muscle. The external jugular vein will be encountered in this dissection with one, two, or three lymph-nodes at its upper extremity. It is ligated above and below and cut at once (Fig. 1). Beginning at the top the entire inferior border of the mandible is laid bare. The facial artery and veins are cut between clamps in front of the masseter muscle and the inferior end turned down toward the submaxillary region together with a paramaxillary premaxillary node which generally accompanies them. The submaxillary gland with the nodes found at intervals on its external superior surface is freed from the bone and the parotid is separated from the anterior border of the sternomastoid as far as the mastoid process. Many veins from the parotid to the external and internal jugulars and to the facial are cut in this dissection. The posterior belly of the digastric is uncovered. Next, going forward, it is necessary to bare the anterior belly of the digastric to scoop out the interdigastric space carefully detaching the two or three nodes found there with all the cellular tissue and to bare the fibers of the mylohyoid to their median raphe. The glands enveloped in cellular tissue are turned back toward the submaxillary region. The angle formed by the digastric with the inferior border of the jaw is the submental artery. This is clamped and cut. The submaxillary gland is then easily drawn back, freed from the mylohyoid, and entirely detached by cutting Wharton's duct. After clamping the facial artery as it passes within the digastric and mylohyoid the emptying of the submaxillary space is completed by laying bare the tendon of the digastric.

In tracking the carotid region, the subhyoid and particularly the anterior belly of the omohyoid are first detached. Then the superficial cervical fascia is incised along the posterior border of the sternomastoid and dissected from behind forward to the anterior border of this muscle including the external jugular vein with its accompanying lymph-glands. Having freed the anterior surface of the sternomastoid, its inner border is very carefully dissected to its entire length and the carotid region is thus widely opened. The spinal accessory nerve is isolated from the point where it first enters this space until it enters the muscle. Behind this nerve is an important group of glands often buried in mass of fat. The glands and fat are dissected en bloc the

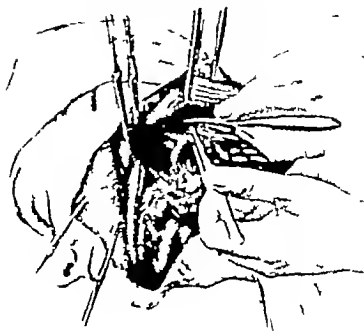


Fig. 1. Shows incision from above, along and of the lymphatic trunk along posterior border of internal jugular vein.

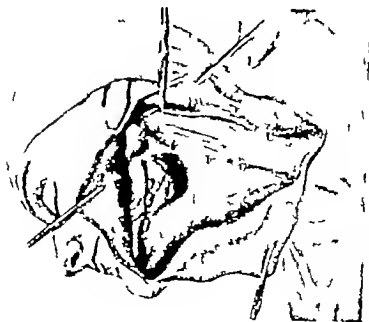


Fig. 2. Showing the reflection of the skin flap and exposure of external jugular vein.

dissection being carried to the deep muscles of the neck if necessary. The freed mass is pushed over the spinal accessory and is drawn anteriorly. It is then possible to dissect from above down and the entire chain of lymphatics and cellular tissue along the posterior border of the internal jugular vein (Fig. 2). The jugular vein is carefully cleaned from behind forward, and when the thyro-lingual facial trunk is met it is cut at its junction with the jugular. The emptying of the region is completed by liberating the anterior part of all glands and cellular tissue that it contains and the small amount of cellular tissue around the greater cornu of the hyoid (Fig. 3).

The supraclavicular triangle, the cleaning of which is a precautionary measure that is well to take, can be completed either before or after the completion of the preceding step without much loss of time. After the anterior border of the sternomastoid has been freed the posterior border is exposed to its entire length, the superior border of the clavicle is freed, then the posterior belly of the omohyoid, and then the anterior border of the trapezius and the entire packet of fat and glands in the supraclavicular triangle dissected up from below. Although this tissue is usually easily separated from surrounding spaces, close attention must be given to the jugular vein, the brachial plexus, the phrenic nerve, the transverse cervical artery and the large veins from the trapezius and the subclavia.

When the operation is terminated (Fig. 4) if of the gland-bearing tissue of one side of the neck, except the negligible subhyoid has been raised, one block and not single gland has been sought or cut or pinched with the forceps. I cause the sternomastoid muscle is adherent to the fixed and enlarged glandular masses, the anterior superior carotid regions, the operator can be sure that the internal jugular vein is involved and that both must be sacrificed. As soon as the star skin flaps are raised, the skin still being in the sternomastoid is cut close to its insertion to the clavicle and mastoid. The jugular vein is buried beneath the omohyoid divided by the clamps, separated from below upward from the carotid and pneumogastric. The supraclavicular triangle can then be easily cleaned. The common carotid, the internal carotid and the pneumogastric can usually be spared. As the anterior superior carotid region is most involved it is cut, tracked until the submaxillary and then the anterior carotid supraclavicular and posterior carotid regions are finished. The order of track may be varied but would all converge upon the region most involved which is left to the last. Resection of the sternomastoid often shortens the time of operation.

The technique varies little if the supraclavicular or brachial groups are adherent. The last complication is met with frequently and is handled by beginning the operation by freeing the supraclavicular and carotid regions and ending by the ablation en bloc of the submaxillary region, the part of the mandible.

If the glands at the base of the neck are large and adhere to the author advises resection of a half or even the inner two-thirds of the clavicle to facilitate the dissection of the region. No bad functional results follow this procedure.

The technique used and the decision as to whether one or several-stage operation should be performed depends upon the location of the tumor and the condition of the patient. The one-stage operation is the operation of choice.

In cancers of the floor of the mouth, Morestin considers it essential to remove all of the lymphatics of both sides of the neck. This operation he performs in three stages: first total excision of the glands of one side, second, the total excision of the glands of the other side, and third the excision of the structures of the floor of the mouth with resection of the mandible usually at the level of the second molar. This procedure is adopted in order to avoid dissecting the deep structures of the neck when opening into the mouth cavity. One, or at most, two weeks, are allowed to intervene between the steps.

In cancer of the tongue the operation is performed preferably in one stage owing to the distortion of tissues which renders two-stage operation exceedingly difficult. If the tumor is confined to one lateral side of the tongue, the suprahyoid, the anterior and posterior carotid, and the supraclavicular groups of the affected side and the suprahyoid, the anterior and posterior carotid groups of the other side, the belly of the omohyoid of the sound side are excised. The dissection is commenced from below, working from below upward and from behind forward. Before opening the buccal cavity, the anterior border of the sternomastoid is cut, resect the subhyoid and digastric muscle and the pharyngeal wall in order to protect the carotid region from infection. The tongue is divided exactly in the midline from tip to base. All remaining tissues are utilized as well as possible to close the defect and the wound packed tightly with iodoform gauze. The only other drainage is one rubber tube placed ferociously in the line of incision, and another through at the posterior flap. This technique is varied somewhat according to the seat and size of the tumor. I omit details of technique for each case, but carefully described.

In cancer of the neck and of the labial circumference it is necessary to excise all the glands of the affected side with resection of the mandible between the tumor and the submaxillary gland and all the suprahyoid glands of the opposite side. This operation is performed preferably in two stages, the first being the excision of the tumor with all the suprahyoid glands of both sides, the second, the external dissection of all the glands, including the supraclavicular gland, of the affected side.

For ordinary cancers of the lip, one-stage operation is performed. The glandular dissection is not carried beyond the anterior carotid group. The only precaution is to close the incision for the glandular dissection before attacking the tumor.



Fig. 2 The use of retractor with great packing and drains



Fig. 3 The suturing of the arterial border of the tensor tympani muscle to the mylohyoid, sublingual and masseter digastric muscles

lat t or three tags) order to render it support ble. I these cases ligation or better excise f the internal carotid with its branches, is a wise precaution. If the buccopharyngeal cavity is opened at the same t ge that the carotid region is exposed, the latter should be sealed off from the former by sutur g the t roomastri muscle t the subhyoid the digastric nd the pharyngeal w ll If the lymphatics re dhere t the terromas told, the ternal jugular nd pneumogastric f one side may be sacrificed tho t fear th ternal and common carot d must be preserved t all cost nd ca almost lw ys be separated from the agglutinated glands whi b surround them Resectio f the larynx perm t more ext nsu operatio and the removal of ppa ently firmly dhere t lymphatics. The prognosis is best whe the lesions are least advanced the ganglia most movable and the subject most constant It is the more satisfact ry as t dist t result the more the eradication t complet by ms tel method call nd anatomically cond ted All ll good technique allows us t f the surgery w th co sidence nd proves that the radi cure of these cancers ca be regula ly bt ined f the patient re operated upon as here dived d t support ne time

Graham A. Tumors of the Carotid Body: with Report of Tw Cases. *U.S. Land U.S. J.* t 19 117 B Surg t on & Clin

The a thor gives brief res me f th dist ulties that ere encou tered classif ing the tumors f the carotid body until bulth g lassified the carotid gland with the sympathetic nervous stem bas g his classification n the large mou t sern trauze that the gland contains nd the close relation that n bears t the sympathetic nervous system

The only lesion f the carotid body so fa described as a characteristic tumor and the descriptions of all of the new growths ha been quite simila Upt o 3 thirty five cases have been reported

The a thor gives t additional no histories lib descriptions of the operations The operations ere performed b (rnik A ry complet description of both the gross nd th microscopical structure of these tumors forms the larger part f the article There re nine illustrations of the specimens nd microscopical sections. The t mons dcribed correspond very lowly clinically anatomically and histologically t the other tumors of the carotid gland reported Graham does not attempt to classify the t mons spec fically as the embryological origin of the gland has not been definitely settled

I thirty-six cases of which complet case reports re gien, the tumors occurred l 9 males nd 7 females. The crage age t hich they ere found was 36 years the youngest patient 7 years of age and the oldest, 63. I twenty-t ases all three carotids ere ligated, and in five the external carotid alone I seven cases the tumor was re-

moved without inj ry t the vessels. I six cases there wa injury t the vagus nerve in eight, to the hypoglossal nd I four t the sympathetic. Hemiplegia occurred four times Four of these patients ll ed nd one died. In ne case the patient suffered cerebral hemorrhage but recovered In fou cases there ere recurrences in three after lligation of the carotid lth removal of the t mor and in ne after the removal of the tumor only Iw cases occurred within year one in four months nd the ther in tw mo ths. The results in two cases operated upon ere not at ted I two cases death resulted from pneumonias in three from hemorrhage and hock nd in one from hemiplegia. f ne case d ath occurred from cerebral hemorrhage one month after the patient left the hospital, nd in nother from recurrence t the end of a ca A omplet bibliography is appended.

Dov to Gorno

G lhal P A Contribution t the Surgery of the Neck. f U lateral Resection of th Internal J g la nd Pneumogastric Harmless? (Contribu tion à la chirurgie du cou La résection unilatérale de la jugulaire interne et d pneumogastrique est-elle inoffense) *Rev d chir* 9 3 lll, pp.

By Journal de Chirurgie

Unilateral resection of the internal jugular and pneumogastric is generally considered harmless. The follow ng cases died t several thers already published tend t disprov this

Ama of fifty 6 was f firing from pavement cell epithelioma of the right vocal cord nd there ere scarcely perceptible lymph nodes long the course of the left carotid

At th first operatio the ganglio s, th left internal jugula nd the pneumogastric ere resected th no immediate troubl Later tracheotomy as performed At 6 the evening the patient semi-comatose respiratio 40 pulse 8 temperature 38° C On excitation there was a pleuropneumonia f the left side nd parais of the right The next day complet coma nd right hemiplegia respiratio 4 pulse 30, temperat f 38° C nd doubl pneumonia Death occurred fort-eight hours after operatio

Gulbal believed that the rapid oncomi g of pulmonary lesions could be ascribed nly t the sec tio of the pneumogastric, although such troubl fter urgical section f the gas is rare. The cerebral symptoms could be ascribed only t the ligation of the jugula vei There ere no symptoms or signs f troubl the carotids Autopsy as not possible

In this case the symptoms ere similar t those reported by Lumer k mmer nd von Bruns, which ere controlled by utopy The cerebral symptoms ere due t venous hypertension of the brain, giving symptoms o both sides, but especially on the side of the ligation. I general, these sympt ms due t insufficiency of the remaini g j gular Explora tion of the jugula before operation would be of no

vall, however as aphasia if the sinus portion would not be noted. J. Oseroere.

Edm nds, W. Thyroid. *J. Pathol. & Bacteriol.*
9, 3, 1912, No. By Surg. Gynec. & Obst.

This paper is the ninth of a series by the author and deals largely with the metabolism of sugars in dogs who have undergone total thyro-parathyroidectomy and have survived on milk diet supplemented 2 times by additional calcium lactate. The author reports the cases of dogs living and in good condition eight and fifteen months after total thyro-parathyroidectomy having been kept on a milk diet during that time. He adds the interesting observation that animals will survive total thyro-parathyroidectomy if they are fed large quantities of milk but that they will not survive if the milk is obtained from thyrosectomized animals. This would indicate that the comparatively larger amount of calcium salts ingested in the milk does not alone account for the survival. Comparing the results of analysis after feeding glucose and lactose to both normal and thyro-parathyroidectomized dogs the author concludes from small number of observations that in dogs the thyroid gland hinders the assimilation of sugar while the parathyroid gland favors the assimilation, and that the parathyroid action of varying assimilation is greater than the thyroid action hindering it. H. B. Loux.

Bauch. *Pathological Changes of the Thyroid Gland in Syphilis* (Zur Frage der Schilddrüsenveränderungen bei Syphilis). Dissertation, St. Petersburg 1913.
By Zentralbl. f. d. ges. Chir. u. t. Grenzgeb.

The author investigated the morphological changes of the thyroid gland in congenital and acquired syphilis. The differential syphilitic changes the influence of other factors, especially of infectious diseases, must be excluded. In the first chapter the iron-hard strumitis first described by Riedel is mentioned and is considered probably not a clinical entity but as due to syphilis or tuberculosis.

In the second chapter Bauch gives a short review of the investigations of thirty-six cases of syphilitic thyroids reported in the literature. Of these, fifteen were carefully examined. He concludes that there are two syphilitic processes that can occur in the thyroid gland: the interstitial and the gummatous. In the remaining twenty-one cases the diagnosis was made ex post facto. Of special interest are seven cases of definite Basedow's disease in which the author adds that more than 1 of these potassium iodide was administered in large doses. It is well tolerated and caused permanent improvement notwithstanding symptoms of hyperthyroidism and Kocher's warning not to employ iodine in gouty cases.

The author's conclusions tabulated in chapter four are as follows. The average weight of the thyroid gland of premature syphilitic fetuses was 3 per cent greater than those of the control cases. In full-term syphilitic children, however, the weight

was 36.6 per cent less. In premature syphilitic children the inter- and intralobular connective tissue was little stronger. In adults with acquired syphilis the interlobular connective tissue was more developed. The average size of the gland lobules and follicles was larger in all syphilitic cases than that of the controls. In the premature cases the dark, firm colloid made its appearance earlier and was more frequent. Vacuolization was marked whereas in the controls it was entirely absent. In full-term syphilitic children and in adults the dark colloid also occurred. Vacuolization, however, as less marked than in the control cases. Cellular desquamation appeared more marked only in the premature syphilitic children. A appreciable difference was found in the size and form of the nuclei of the follicular epithelium. The number of fat droplets in the follicle cells was greater in syphilitic than in normal thyroids. The quantity of blood in the syphilitic gland was greater. The condition of the vessels was surprising. The changes which in other organs are considered as pathognomonic to syphilis occurred in the thyroid only exceptionally and then only to a slight degree. In all of the cases there were noted conglomerations of nuclei which must be considered as the antecedent stage of follicle. They are, therefore, more common in young than in old glands.

From all of these findings the conclusion must be drawn that changes of the thyroid gland in congenital, as well as in acquired, syphilis are not in any way specific. They are more quantitative than qualitative in nature. In congenital syphilis the gland develops earlier, colloid appears earlier in its follicles, and fat appears in the follicle epithelium earlier and in larger quantity than in the controls. The functional changes in syphilitic glands naturally must be quantitative in nature. In view of the microscopic findings, the function must begin very early. Later it must be inferior to that of normal glands. Extensive chemical and hematological investigations must decide this. Six microphotographs and two large tables accompany the monograph.

Stromberg.

Krecks, A. *The Effect of Thyroidectomy on Thyroid Affections* (Der Einfluss der Strumektomie auf die Thyreosen). *Deutsche Zeitschrift für Chirurgie*, 9, 3, 1913, 214, Fischer, Stuttgart, 1913.
By Zentralbl. f. d. ges. Chir. u. t. Grenzgeb.

Krecks asserts that from 50 to 60 per cent of his gutter patients have general disorders either of the nervous system, the circulatory system or of metabolism. These disturbances he designates as thyreoses and divides into three grades. Of the first grade are general disorders of metabolism accompanied by merely subjective feeling of palpitation. The second grade includes those cases with tachycardia and pulse beat up to 20 per min, but without exophthalmos. The third grade includes cases that show the typical picture of Basedow's disease.

The thor calls attention to the occult thyroid disorders which are difficult to diagnose. For confirmation of the diagnosis he recommends the administration of iodine or thyroid gland tablets which increase the thyroid symptoms. Kocher's blood picture and the ineffectiveness of digitalis on the pulse also help to confirm the diagnosis.

Of 85 patients operated on for goiter 54 had thyroid symptoms. 13 of these cases the symptoms were of the first degree in 7 of the second degree, and 15 of the third degree. Later reports from 44 of these patients showed that 50 per cent recovered and 30 per cent had improved. A small number were not helped at all, or helped only slightly. It is probable that these had nervous disturbances of some other origin than that of the low glands are involved. *Excerpta Medica*

Wilson L. B. Notes on the Pathology of Simple and Exophthalmic Goiter. *Med Rec* 93 March 27-30. B. Surg. Gynec. & Obst.

This paper is a review of the pathology of the thyroid glands removed from 203 patients in the Mayo Clinic who presented symptoms that could ordinarily be diagnosed as exophthalmic goiter. For purposes of control, the pathology of 585 thyroids removed from patients whose condition would ordinarily be diagnosed as simple goiter is given.

The following classification of the histological conditions has been followed in these studies:

- I. Embryonic (underdeveloped) thyroid
- II. Normal (resting) thyroid
- III. Vascular changes.
 - Hyperemia.
 - Hemorrhage (including resulting cyst formation)
- IV. Inflammations
 - A. Progressive changes
 1. Hypertrophy (functional, with hyperemia)
 - Hyperplasia (exophthalmic goiter)
 3. Adenomatosis (multiplication of acini without encapsulation)
 4. Regeneration (of previously atrophic parenchyma)
- VL. Retrogressive changes.
 1. Retention of secretion (colloid goiter)
 - Atrophy (of parenchyma)
 3. Degenerations.
 - a. Colloid (of parenchyma and stroma)
 - b. Hyaline
 - c. Amyloid
 - d. Calcareous.
 - Cystic.
- VII. Tumors.
 - Benign
 - a. Follicular adenomata (encapsulated)
 - b. Adenoid adenomata (encapsulated)
 2. Malignant.
 - a. Anethochromata.
 - b. Carcinomata
 - c. Sarcomata.

Much of the trouble in interpreting the pathology of the thyroid gland has come from the associated difficulty of definitely grouping the clinical symptoms. Recently however Plummer has sharply differentiated the toxic symptoms of goiter into two clinical groups: (1) toxic exophthalmic and (2) toxic non-exophthalmic. Plummer points out that beside sooner or later exhibiting the symptom of exophthalmos the cases of the first group are acute and in many respects resemble the symptoms of acute alcoholism, while those of the second group are chronic and in many respects parallel the symptoms associated with arteriosclerosis from chronic alcoholism. In this latter group are many cases so mildly or so brilliantly toxic that clinicians in the past have frequently listed them as simple goiters. Plummer suggests that this latter term should be abandoned by the clinician and the term toxic substituted for it.

The thor conclusions were as follows:

A detailed pathological study of fixed tissue preparations of the thyroids removed from adults and the finding thereby of marked primary parenchymatous hypertrophy and hyperplasia permits the pathologist to diagnose exophthalmic goiter with about ninety five per cent accuracy. At the same time consideration of the data above mentioned will permit him to estimate the stage of the disease in about eighty per cent of the cases, and the severity of the disease in about seventy five per cent of the cases.

A similar study of thyroids from adult patients and the finding thereby of no marked hypertrophy hyperplasia, regeneration of parenchyma will permit the pathologist to diagnose non-toxic goiter with about seventy-five per cent accuracy.

3. The most difficult cases to diagnose pathologically are those of the clinical toxic non-exophthalmic type. While these are of hyperplastic, they may fall into any of the other above-mentioned groups. Our knowledge of these cases is still too incomplete to permit us to draw conclusions concerning the details of their pathology.

4. On the whole, it would appear that the pathologist has quite as much data for the estimation of the clinical symptoms of exophthalmic goiter from the pathological data that can be obtained from a study of the thyroid as he has to estimate the clinical symptoms of Bright's disease from the pathological data that can be obtained from the study of the kidney.

Roussy, G. and Clunet, J. Lesions of the Thyroid in Basedow's Disease (Lésions du corps thyroïdien dans la maladie de Basedow). *Rev. Neurol.* 93, 222. By Journal de Chirurgie.

It is generally agreed that Basedow's disease is due to disturbance of the thyroid, and treatment is directed to the thyroid. There has been great difference of opinion, however, as to just what condition of the thyroid it is that causes the disease.

Roumy and Clunet report an histological study of ten thyroids from patients who presented Basedow syndrome. Three of these patients had true Basedow disease three goiter with secondary Basedowian changes and two thyroid cancer presenting the Basedow syndrome.

I the five cases of true Basedow disease in young subjects in whom exophthalmos, tachycardia and trembling appeared at the same time as diffuse hypertrophy of the thyroid the structure of the gland was found to be homogeneous throughout and to present the following characteristics: (1) Hypertrophy and proliferation of cells which showed a tendency to become cylindrical and to form intra-acinar vegetations (2) the lumens of the acini were very small filled with chromophobic colloid, and slightly or not at all retractile (3) atrophy of the stroma and (4) in three cases out of five there were true lymphoid follicles in the stroma some of which presented a clear center.

I the three cases of goiter there were found different types of the structure of simple goiters in different areas (cysto-adenoma, simple colloid goiter, follicular goiter with small acini beginning advanced and calcified scleroses, and myxoid and colloid degeneration of the stroma). On examining

large number of sections however the authors found in all three cases small areas which presented the histological picture of true Basedow's disease.

I the 1 cases of cancer with the Basedow syndrome the cancer cell as cylindrical thyroid cell, secreting ductile chromophobic colloid.

The authors therefore regard the thyroid picture in Basedow disease as characterized by proliferation of cells, cylindrical-cubical in form and ductile and chromophobic stroma of the colloid. The presence of true lymphoid follicles in the stroma is frequent but not specific.

I true Basedow disease these lesions extend throughout the gland in the goiter with secondary Basedowian changes, they exist in islands and in thyroid cancer presenting Basedow syndrome they characterize the neoplastic changes.

The fibrous structure may be observed not only in this disease, but in cases of intense thyroid hyperplasia, or rapid development, such as occurs in normal here compensatory hypertrophy has followed removal of nine-tenths of the thyroid tissue.

These conclusions agree with those of Robin Deval (4 cases) in France of Wilson (20 cases) in the United States of Zander (4 cases) in Germany and of Koerber in Switzerland. J. Clunet.

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Pfahler G. L. The Treatment of Recurrence and Metastases from Carcinoma of the Breast. *J. Internat. Cong. Med. Lond. 9. 1. Aug.* D. burg Gyner & Co.

This report is based upon thirty of fifteen cases which have yielded good result from treatment with X-rays. The patient have remained well from one to nine years.

In addition to the use of the X-ray, thyroid extract was prescribed in small doses, beginning with one half grain, and being gradually increased to one and half grains three times a day. The addition of the thyroid extract was based upon theories first that as result of the X-ray treatment, the thyroid secretions are progressively diminished and second, that in the case when carcinoma develops, the thyroid secretion naturally tends to diminish.

The treatment described has seemed to increase the nutritive powers of the body and to give better results than were obtained without thyroid extract.

The object of the article is to prove that even advanced carcinoma can be influenced by X-ray therapy and that there should be no hesitation in ordering X-ray treatment immediately after any operation for the removal of carcinoma of the breast, or at the latest, when recurrence is noted.

The X-ray treatment must be thorough the

disease must be treated from as many different directions as possible and the skin must be protected by filtration. Following these directions we may hope for better result in the future.

G. L. Pfahler. Penetrating Injuries of the Chest and Abdomen. *Die penetrierende Brust- und Bauchverletzungen.* In: *Die Chir. u. g. L. u. N.* D. Zentralbl. f. d. ges. Chir. u. g. L. u. N.

I penetrating wounds of the thorax there are great diagnostic difficulties in determining whether extra-abdominal injury also is present. The usual symptoms, such as injury to ribs, muscular rigidity for example is found in the beginning of most injuries affecting the lower thoracic region and the diaphragm. I wound of the diaphragm that did not penetrate the peritoneum Gaultier noted diffuse muscular defense. The retrogression or increase in these phenomena is more abundant in cases which can be observed for longer period of time. The pulse falls as a diagnostic sign in thoraco-abdominal injuries, because injuries to the pleura first produce vagus pulse (Sauerbruch-Walther). There is no certain pathognomonic sign of simultaneous abdominal injury in penetrating wounds of the thorax. The diagnosis may be only very probable from the character and nature of the injury. Observation of from three to four hours is of some assistance.

I regard the question as to whether a trans-

pleural operation a laparotomy should be performed in such cases, Guleke believes on the basis of his experience that in large wounds the operation should be transpleural. After the opening in the diaphragm is enlarged the injured abdominal viscera can be taken care of and the diaphragm sutured. If injury to deeper or retroperitoneal organs is suspected, a laparotomy also should be performed. In narrow and small wound channels produced by a bullet or a fine instrument only laparotomy should be considered. Suturing the diaphragm is not necessary in such cases.

Five case reports given were as follows (1) Incised wound of thorax and abdomen with protrusion of the intestine laparotomy cure (2) Thoraco-abdominal puncture, injury to omentum transpleural operation plus laparotomy suture of diaphragm, later rib resection and pneumothorax because of pneumothorax peritonitis exitus (3) Percutaneous diaphragmatic puncture thoracotomy healing the puncture run tangentially to the diaphragm at the rib insertion without injury to the peritoneum. (4) Puncture of chest and abdomen, stomach punctured laparotomy peritonitis exitus. (5) Gunshot wound of thorax and abdomen wound of spleen laparotomy healing.

SCHWABACH.

Kaefler N. The Treatment of Fractures of the Clavicle (Zur Behandlung des Schlüsselbruchs) *München med Wochenschr* 9, 3, 1, 500. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

For fractures of the clavicle Kaefler recommends a bandage which is applied as follows. The affected shoulder is firmly pulled backward by one assistant and the elbow lifted upward by another. A cotton pad is then inserted in the axilla. The arm is pressed against the thorax and held in this position firmly. The fragment pieces must be well adapted to each other. The point of dislocation is covered with mastisol. Upon this gauze pad is laid. A strip of gauze is then stretched over the pad. A shoulder piece of plaster of Paris, 30 cm long is then modelled around the shoulder and Desault bandage placed over the moist plaster cast. The twists of the bandage are kept from unwinding by mastisol spread upon the skin. The plaster of Paris cast allows the Desault bandage to be applied very firmly and thus the whole dressing is given great stability. The sound shoulder remains free. In the third week the bandage is taken off and massage and exercise are begun.

HILKE.

Drätske Scapulothoracic Scapula (Zur Kenntnis der Scapula scapulothoracica) *Ztschr f. d. Erforsch. Behandl. d. Jugend. Schwachk.* 9, 3, 1, 468. By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The deformity of the shoulder-blade described frequently under the name of scapulothoracic scapula has been found by Drätske in 20 per cent of the cases of Hamburg school children and in 3 per cent of cases of children in the reform school. Kellner found it even more frequently in idiots, so that it is

doubtless a sign of degeneracy. Congenital syphilis is not the sole factor (Graves). Other etiological factors are alcoholism, tuberculosis, severe nervous disease of ancestors, and rickets. DUCHESNE.

Boissacq A Contribution to the Symptomatology and Therapy of Thymus Hypertrophy (Ein Beitrag zur Symptomatologie und Therapie der Thymus-Hypertrophie) *Ztschr f. Kinderheilk.* 9, 3, 47.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

CASE 1. A two-months-old girl of healthy parentage. For three weeks noisy respiration, vomiting, cyanosis, inspiratory stridor: a rounded tumor in the jugulum voice free dullness under the manubrium with corresponding X-ray shadow. Diagnosis Thymus hypertrophy with compression of the trachea. Operation. Complete thymectomy. Weight of thymus gland 20 g. Course. Injury of softened trachea by glass drain followed by severe bronchitis and tracheotomy. Eighteen days after the operation, death from bronchopneumonia.

CASE 2. A boy one and a quarter months old of sound parentage. Since birth, daily attacks of suffocation. Cyanosis inspiratory and expiratory stridor dullness over the thymus. Diagnosis Thymus hypertrophy. Operation. Resection of the thymus gland. Patient well after three to four months, with slight signs of rickets.

CASE 3. A girl, four and one half years old, of healthy family. Since second week of life audible respirations, attacks of dyspnea and difficulty in taking nutrition. Cyanosis, inspiratory and expiratory stridor X-ray treatment. I nine weeks seven X-ray exposures with a R.

Of the physical methods, radiocopy and radiography are the most certain for demonstrating thymus hyperplasia. Stridor vestibularis, congenital stenosis of the trachea, mediastinal abscesses, and enlarged bronchial glands must be excluded. In case of severe symptoms with asphyxia an immediate partial thymectomy should be performed possibly with resection of the sternum. In some cases healing is very gradual because the tracheal rings are soft. Tracheotomy should always be avoided. Intubation gives only temporary relief. In the intermittent forms of thymus hyperplasia, X-ray treatments can be used, but only under clinical observation. At first the condition may become worse. In thymus hyperplasia on a syphilitic basis, specific treatment should be combined with brine baths, which give favorable results. KLOPP.

TRACHEA AND LUNGS

Mourvet, J. A New Position for Bronchoscopy and Esophagoscopy and Its Advantages over the Classic Position (Une nouvelle position pour bronchoscopie et œsophagoscopie et son avantage sur la position classique) *Tr. Internat. Cong. Med.* Lond. 1913, Aug. By Surg. Gynec. & Obst.

As a position for bronchoscopy and esophagoscopy Mourvet prefers to have the trunk and pelvis

bent far forward and the head extended. If the bronchoscopy or oesophagoscopy is to be done under local anesthesia, the patient is seated astride a chair. If under general anesthesia he lies in a crowding position on his side.

While in the lateral position (Kilian, Brönnings) the buccopharyngeal angle is opened from below, the head being lifted and placed in a forced position by Mooney's method. It is opened from below, and the buccopharyngeal angle is opened at the side, toward the rib cage. The pelvis is carried back a few centimeters and the shoulders are drawn forward.

The position of the trunk is pulled out, relaxed, and off several degrees. The patient is in a much less painful position. The operation is performed in front of the patient. The introduction of the tube is easier because the operator is in front of the patient, but the introduction of the tube is more difficult because the rib cage is being worked. The tube is inserted in the ordinary position. Does not offer a table to the patient.

The tube has performed in most bronchopneumonia, pharyngitis, and this method for tumors of foreign bodies. It is a mouth to the tube, the tube of the lower third. The tube has been used in the most terrible cases of pharyngeal cancer. It is removed from the mouth, the tube is inserted in the mouth, and the tube is inserted in the mouth. Under general anesthesia, fluorographs and three diagrams give a representation of the different types of the operation. The results are as follows:

Laurenz, H. L. Bronchogenic Carcinoma. Das bronchogene Carcinom. Die Lungen (1911).

H. Zentgraf, J. d. ges. Chir. (Leipzig).

All embryological forms of the bronchogenic carcinoma are discussed. The author concludes that the second bronchial left is responsible for the formation of a series of lateral fistulae, and that therefore these should continue to be called the bronchogenic fistulae. Not all lateral fistulae, however, develop in the second left. According to the author, the tumor originates from the thymopharyngeal duct. However, this is not true. Two bronchogenic forms exist, if not necessary to give them a name. The first is the typical bronchogenic carcinoma, a small nodule first appears in the neck below the larynx. This condition is incorrect diagnosis. Is the rule and the possibility of a bronchogenic carcinoma is only rarely thought of.

Clinically unknown. This does not heal and the patient rapidly dies. Incurable. The tumor begins to grow rapidly and infiltrates the underlying tissues. Neuralgic pains radiating in all directions are felt. The regional lymph glands become enlarged and hard nodes may form on the opposite side of the neck. At the operation even in early stages there are found quite regular adhesions. The tumor kills the muscular muscle and also with the

exterior carotid and its branches which naturally must be excised. Ligation of the anterior carotid often cannot be carried out. At times resection of the vagus is expedient. Microscopically the tumor looks like carcinoma of the skin or of the oral mucous membrane.

The diagnosis must be made by exclusion on the basis of the absence of primary carcinomas in other places. The differential diagnosis from carcinoma of the parotid or submaxillary gland is very difficult. It is especially difficult in the latter case because here a squamous cell tumor occasionally simulates a sarcoma. The diagnosis from carcinoma of the trachea is also very difficult. The treatment of this extremely malignant neoplasm is not only a radical extirpation of the tumor. The treatment is an operation procedure. The prognosis is unfavorable. Statistics compellingly show that the results are not good.

Ch. III. 9. The Treatment of the Respiratory Passages. On the treatment of the respiratory passages. In the treatment of the respiratory passages. In the treatment of the respiratory passages. In the treatment of the respiratory passages.

II. Surg. Cases & Obs.

The results of the treatment of the respiratory passages are discussed. The author concludes that the treatment of the respiratory passages is a very difficult task. The treatment of the respiratory passages is a very difficult task. The treatment of the respiratory passages is a very difficult task. The treatment of the respiratory passages is a very difficult task.

The author describes the treatment of the respiratory passages. The treatment of the respiratory passages is a very difficult task. The treatment of the respiratory passages is a very difficult task. The treatment of the respiratory passages is a very difficult task. The treatment of the respiratory passages is a very difficult task.

HEART AND VASCULAR SYSTEM

Leporello. A Case of Prolonged Contraction of Heart Action Resulting from Needle Injury to the Heart (Ein Fall von langdauernder Herzkontraktion infolge einer Nadelverletzung des Herzens). *Arch. f. klin. Med.* (1911).

By Zentgraf, J. d. ges. Chir. (Leipzig).

The author describes the case of a man 6 years of age who fell down on his back on his breast and ribs.

needle into the left half of the thorax. The patient was brought to the clinic at once. At that time he was pale and every movement of the hands caused pain. The needle could be felt in the second intercostal space. It moved up and down synchronously with the pulse. Auscultation and percussion revealed nothing abnormal. The pulse was regular but somewhat rapid.

The needle was removed under local anesthesia. The instant it was removed the patient ceased breathing and immediately afterward the pulse stopped. All possible restorative measures were undertaken and at the end of twenty minutes the pulse could be felt again. In five minutes it stopped a second time but reappeared again in a little while. This was repeated twice.

The author believes that the phenomena noted were caused not by needle prick of the heart itself but by a needle scratch of the epicardium when the needle was withdrawn that stimulated the inhibitory apparatus of the heart. The same result he has produced experimentally. J. W.

Dean, G. and Falconer, A. W. Primary Tumors of Valves of the Heart. *J. Pathol. & Bacteriol.* 93, xviii No. By Surg. Gynec. & Obst.

The authors report a case of tumor of the pulmonary valve, discovered at autopsy in a male, fifty-three years of age, who died of rupture of a calcified aneurysm of the aorta. During life there had been no clinical signs to suggest pulmonary valve disturbance. The tumor pedunculated the size of a raspberry rose from the ventricular cusp of the pulmonary valve, which was otherwise entirely normal. Microscopically the tumor consisted in part of myxomatous tissue and in part of hyaline connective tissue. It was covered by endothelium and was without vessels. The thorax collected from the literature thirteen cases of heart valve tumor of similar structure: three pulmonary, three aortic, five tricuspid, and two mitral. They discuss at some length the pathology of the growths and the varying views that have been expressed as to their nature. H. B. Loomis

Delagenière, H. Pericardiolyse in Certain Diseases of the Heart or Supercardiac Thoracotomy (De la péricardiolyse dans une certaine affection cardiaque ou de la thoracotomie supracardiacque). *Arch. prov. de Chir.* 93, xviii 37. By Journal de Chirurgie.

Delagenière describes an operation that he calls pericardiolyse, and which consists in freeing the anterior surface of the pericardium by resecting the part of the thoracic wall that covers the pericardium. This enables the heart to contract with its normal

rhythm and sweep even if there are adhesions between the heart and the pericardium. If therefore only limited resections had been performed, involving portions of the third, fourth, fifth, and even the sixth ribs where they came into relation with the pericardium. Only once had transverse section of the sternum been removed (Thornburn).

Among thirty-eight cases published there had been only one death from operation: thirty-one successful cases, and six failures. In all of the unsuccessful cases there were valvular lesions. The lack of success may have been due to the fact that the operation was not extensive enough and did not alter the cardiac action sufficiently.

Delagenière describes his own case that of a woman twenty-eight years of age with severe cardiac lesion involving the right side of the heart as shown by cyanosis of the lower limbs and a true venous pulse.

Under chloroform anesthesia a skin incision was made outlining a flap which covered the whole precardiac region. A hole was bored in the lower end of the sternum and the skin incision followed. The sternum, the cartilages, and left ribs, the sternum again above, and the false ribs on the right were resected in succession. The flap was raised and detached from the pericardium and pleura. As soon as the flap was removed the heart bounded into the field of operation, and, striking on the upper intraclavicular notch of the sternum, caused asphyxiation. Three more centimeters were removed. The heart then seemed to beat with less difficulty and respiration was normal. The patient was able to get up on the fifteenth day. Before the operation she could do nothing. She now does her daily work as charwoman and has cyanosis or edema. On inspection the rise and fall of the heart on pulsation can be easily seen. The pulse is 78 and regular. Arterial tension is normal.

The author believes that all cases of adherent mediastino-pericarditis should be treated surgically. Often they follow purulent pleurisy and sometimes tubercular pleurisy. In these cases simple resection of from at least nine centimeters of the fourth, fifth, and sixth ribs may suffice. In adherent pericarditis following acute pericarditis with or without valvular lesions, however, only the extensive operation described by Delagenière frees the heart and great vessels completely. This operation is indicated also in ill-defined cardiac disease with a without valvular lesions when there are signs of stasis, a involvement of the right heart.

The case described belongs in this category and ten years after the operation the patient expresses herself as delighted with the result.

GEORGE LARRY

high the coils lying in the hernial sac are healthy and without constrictions, while the middle piece is gangrenous. In other cases the hernial loops may be slightly or severely injured, with moderate to severe damage to the middle loop. Finally there may be gangrene of all of the loops or marked alterations in the hernial loops, with slight or no injury of the mid piece. The mesentery of the mid-piece may not be incarcerated, while the latter is completely gangrenous, or the mesentery may show visible alteration, even though it lies quietly in the abdominal cavity. Experiments on the dæmon have shown that in such incarcerations the mid-piece if distended with gas, becomes sharply kinked whereby a constricting ring forms, the mesentery (Zogariade) in this sharp angle the vessels become kinked and nutritional disturbances to the intestine result. The author however was not able to make the same findings. Experiments on the intestine of dogs showed that gangrene occurred only when the mesentery of the middle part was drawn into the hernial opening. In spite of the object that it cannot be assumed that there is enough space in the hernial opening for the intestine to push it into the abdominal cavity alongside of an incarcerated loop, etc., the author believes that kinking of the bowel, even though very small forces may send the loops through the hernial opening as a result of peristalsis. The resulting distension produces traction, which continually draws new intestine into the abdominal cavity whereby the mesentery remains at first in the hernial sac and only the parts that are next to the intestine enter the abdominal cavity. At times as a result of high grade typhoiditis the whole mesentery may be pulled out of the hernial opening. The author does not consider as retrograde incarceration the prolapse of the intestinal loops in which the connecting loop is not injured materially. It cases in which retrograde incarceration or hernia duplex is suspected, he warns against attempts at reposition.

R. W.

Laplace E. Thrombosis of the Mesentery. *J Internat. Cong Med Lond* 93.
By Surg. Gynec. & Obst.

Thrombosis of the mesentery with its uncertain clinical symptoms is due to an infection which results in a thickening of the mesentery and its blood vessels followed by thrombosis and gangrene of the gut. The infection may be local or may have spread from neighboring focus.

Infection of the febrile or afebrile type is also accountable for the various forms of phlebitis which occur about the external iliac vein and result in the well-known post-operative edema of the extremities. The infection is uniform on the right and left sides but will manifest itself at first on the left side on account of the fact that the left iliac artery overrides and compresses the left iliac vein.

The afebrile type of infection may likewise be responsible for such thrombosis which when finally

loosened, results eventually in pulmonary embolism. In order to guard against this subtle form of infection in post-operative treatment of all abdominal cases, a 500 solution of citric acid in water should be administered by the Murphy rectal drip method as a prophylactic.

GASTRO-INTESTINAL TRACT

Holland C. T. A Method of Obtaining a Radiograph of the Stomach in Any Particular Phase of Its Contraction. *Arch Surg Ray* 93, xviii, 98.
By Surg. Gynec. & Obst.

In a single paragraph is described a practical method of obtaining a radiograph of the stomach at any desired phase of its cycle. The phase desired is found by fluoroscopic observation. By this method also is obtained the number of seconds required for the stomach to complete its cycle which is usually twenty. By observing stop-watch that is started at any phase we may determine exactly just when the radiograph of that phase should be taken, as it will return at any multiple of twenty seconds.

HOLLIS L. POTTER.

Georg A. W. The Positive Value of the Roentgen Method in the Diagnosis of Gastric and Duodenal Lesions. *J Am Surg Ass Soc* Boston 93, Oct.
By Surg. Gynec. & Obst.

The positive or exact method of roentgen diagnosis of duodenal ulcer depends upon the adequate demonstration on plates of the anatomical condition of the duodenum. This is opposed to the method of diagnosis by "symptom-complexes" of increased gastric peristalsis, hypermotility, gastric stasis, relaxed pylorus, etc. These complexes are only inferential in their evidence, and never positive.

Ninety five per cent of duodenal ulcers occur in the first portion of the duodenum.

3. The first portion of the duodenum is anatomically constant entity. Germal examined the duodenums of four hundred cadavers and found the first portion always constant in shape, contour and general characteristics, unless actually diseased.

4. If the first portion of the duodenum is normal it can be demonstrated by the bismuth method upon plate. It will be seen as a cap with a characteristic shape and smooth outline. In every normal case it can always be demonstrated upon plates by using some one of the three positions—prone, standing, or lateral. There is no exception to this rule. Apparent exceptions are due to improper technique, and especially to too much reliance upon the fluoroscopic examination.

5. The constant presence upon a series of plates of a constant defect or abnormality in the cap means positively a pathological condition in the duodenum. This may be due to indurated ulcer adhesions, gall-bladder disease, spasm, etc., which require a differential diagnosis.

6. Every duodenal ulcer which is more than a simple mucous membrane erosion will deform the contour of the stomach mass in the cap. This deformity is due not to the minute mucosal defect, but to the much larger callus which involves the submucosal and muscular coats.

7. The demonstration of a normal duodenal cap upon plat definitely rules out the possibility of indurated or surgical duodenal ulcer.

Oiland, J. H. Skinner E. H., and Clendenen, L. A Study of the Mechanism of the Stomach after Gastro-Enterostomy by Means of the X Ray. *Surg. Gynec. & Obst.*, 9, 2, April, 15.
By Surg., Gynec. & Obst.

The authors studied the physiology and mechanism of digestion by means of the fluoroscope and the X ray in six patients upon whom gastro-enterostomy had been performed. They attempted to determine in particular whether after gastro-enterostomy the food leaves the stomach by way of the pylorus or the stoma, and the rate at which the stomach is emptied. The examinations were made from three weeks to three years after the operation had been performed.

In all cases it was found that the stomach was drained by the gastro-enterostomy stoma. In four the food left by the gastro-enterostomy opening exclusively and in two by both the stoma and the pylorus. The rate of emptying was reduced.

The conclusions drawn from this study are as follows: (1) Gastro-enterostomy performed properly is drainage operation. (2) After gastro-enterostomy if the stoma is at the lowest part of the stomach in the erect position, the food leaves the stomach almost exclusively by the gastro-enterostomy opening. (3) Under these conditions the stomach is emptied very rapidly. (4) Gastro-enterostomy should be performed only in cases of pyloric stenosis or pyloric spasm due to duodenal or gastric ulcer. (5) The gastro-enterostomy opening should be large and placed as close as possible to the pyloric antrum. (6) When the gastro-enterostomy opening does not quite drain the stomach, the food leaves by way of both the stoma and the pylorus. Even in these cases, however, the stomach empties itself more rapidly than the normal stomach. (7) Clinical failures after gastro-enterostomy are due probably to faulty implantation of the stoma.

Cole, L. G. Diagnosis and Differential Diagnosis of Gastro-Duodenal Lesions. *T. Am. Surg. Soc., Boston*, 9, 3, Oct.
By Surg., Gynec. & Obst.

Cole claimed that by making several series of roentgenograms of the stomach with the patient in the prone erect and lateral positions at various intervals after the ingestion of bismuth and butter milk, he can make positive or negative diagnosis of gastric ulcer, indurated ulcer of the stomach, or duodenal ulcer and that where cholecystitis is associated with adhesions, he can detect the evidences of the adhesions.

His remarks were largely extracts from previous communications based on personal experience in 526 cases. He demonstrated the appearance of the normal cap (pilus ventriculi) and described the physiology of the pylorus as observed roentgenologically and used these normal cases as controls to show the difference between extensive malignant and non-malignant lesions of the stomach.

He recognized his inability to differentiate between early carcinoma and indurated gastric ulcer but stated that in these cases surgical procedure is indicated regardless of whether the clinical history corroborated the roentgenological findings, and that the tests should be considered malignant until proven otherwise by microscopical examination of the specimen after its removal. In such cases the surgeon does not know whether he has cured an early carcinoma or prevented one until he receives the pathological report.

Carcinomas too extensive for removal are readily recognized, and unnecessary surgical procedure may be prevented. Such cases do not require a long series of roentgenograms.

This communication centered around the negative and positive diagnosis of duodenal ulcer or as the author preferred to call it, post-pyloric ulcer. Cole stated that if a single roentgenogram out of 40 showed symmetrical cap corresponding in contour with the pars pylorica, and if the pyloric sphincter was clear-cut and functionated in a normal manner (previously described) we are justified in making a negative diagnosis of duodenal ulcer of the cap, 95 per cent of which occur in this portion of the tract.

The positive diagnosis of duodenal ulcer or extensive adhesions from cholecystitis may be made with remarkable accuracy. Ulcers with cicatricial contractions may not always be differentiated from the extensive adhesions usually accompanying cholecystitis. This differentiation, however, is of more scientific interest than practical value because in either condition surgery is indicated if the symptoms are sufficiently characteristic.

The author recognized spasmodic contraction of the cap and pylorus caused by lesions at other points in the abdomen, particularly those at or near the cecum (links in the ileum, appendicitis, mobile cecum, etc.) and stated that care should be exercised to avoid mistaking these spasmodic contractions for organic lesions. Sometimes confirmatory series of roentgenograms after the administration of belladonna is necessary to differentiate between spasmodic and organic lesions of the cap or pylorus.

In conclusion Cole stated that by studying individually and collectively a large series of roentgenograms and matching them over each other one can make diagnosis of early carcinoma of the pars pylorica, indurated ulcer of the stomach, and duodenal ulcer with certainty.

The discussion centered around the expense necessitated by serial roentgenography and the relative value of roentgenology and serial oentogography. The way in which serial oentogography can be employed among the masses is the aim in which surgery is employed, each patient paying according to his means.

The consensus of opinion was that use should be made of both that where a positive diagnosis (usually of extensive lesion) can be made by roentgenology serial roentgenography is unnecessary but that in all doubtful cases serial roentgenography is absolutely essential before one is justified in making a negative diagnosis of gastric or duodenal ulcer or carcinoma.

Price, A. H. *Indications Afforded by X Rays for and against Operations in Diseases of the Stomach and the Results of Such Operations.* *T. Am. Surg. Soc. Boston, 9 3 Oct.*
By Surg. Grover & Obit.

The author gave his experience in cases which a diagnosis had been established or confirmed by roentgen rays in diseases of the stomach, and cited the results obtained by surgical and medical treatment. He reviewed the following subjects:

1. Chronic gastric ulcer. Slides were shown illustrating the ulcer filled with barium sulphate and with the bubble of gas above the ulcer. Two slides showed the ulcer filled with barium when the rest of the stomach had been emptied. Price advocated shutting off the ulcer by tying a band of fascia tightly around the stomach above the ulcer and anastomosing the jejunum to the lowest part of the cardiac end of the stomach.

2. Acute gastric ulcer indicated by spasm opposite the ulcer and gastric stasis. Operation was not resorted to in such cases.

3. Early carcinoma. The author described cases in which carcinoma had not been suspected on clinical grounds but unremovable carcinomas were found by roentgenograms.

4. Late carcinoma shown by X rays to be irremovable.

5. Cardiac stenosis, mistaken for pyloric stenosis prior to X-ray examination.

6. Pyloric stenosis, when due to duodenal ulcer does not show finger-like indentations such as are present when it is due to carcinoma.

7. Gastropexia. The patient symptoms were not relieved by operation and elevation of the stomach. The author advocated gastro-enterostomy as in all cases in which the food escaped quickly from the stomach he found that the stomach was small and high.

8. Tumors pressing upon the stomach. Slides were shown of distortions of the stomach by pancreatic cyst and enlarged spleen.

9. Adhesions about the stomach and pressure by surrounding organs.

10. Normal stomachs, pronounced normal by X-ray examination and found so at operation.

Price believes that the roentgenologist should advise the patient not only for or against operation but also in regard to diet and times for eating.

Henle, A. *Experiences in the Surgical Treatment of Benign Affections of the Stomach and Duodenum (Erfahrungen bei chirurgischer Behandlung gutartiger Affektionen des Magens und Duodenums).* *Verhandl. d. Gesellsch. deutscher Naturf. Arzt. 9 11 44.*
B. Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Two cases of tuberculous duodenal stenosis were healed by gastro-enterostomy with K. Hing's closure of the pylorus. In both cases the roentgen examination failed inasmuch as it showed in the one case only pyloric stenosis and in the other a pyloric and a high grade duodenal stenosis. In ten cases of typical ulcers of the duodenum, pyloric exclusion and separation of the stomach was performed with eight cures. In two cases, ulcer symptoms, i. e. hemorrhages, reappeared after the operation.

In the one these were transitory, the other a second laparotomy had to be performed five and a half years later. A kink and stenosis of the small intestine by adhesions were found 5 cm. below the gastro-enterostomy and a ulcer in the latter which required resection and a new gastro-enterostomy. Entus. The post-mortem examination showed complete cicatrization of the old ulcer and an atrophy of the various typical gastric glands in the excluded portion of the stomach removed by the resection.

1. pyloric exclusion the stomach may be severed in the prepyloric part. 2. this region the operation can be performed much more easily and without fear that the isolated portion of the stomach will continue to produce hydrochloric acid which would keep the duodenal ulcer open. Possibly recurrences observed soon after operation are due to temporary continuation of the hydrochloric acid secretion.

Henle has occasionally attempted exclusion also in painful ulcers of the pylorus. This he has done in twenty-four cases, in which there were only four deaths. Two of the deaths, however, were not ascribable to the operation. Simple gastro-enterostomy he has performed in benign gastric affections fifty times with only three deaths. Among these were five gastro-duodenostomies, which Henle would prefer if they were not so difficult to perform through the median incision. In all but two cases a posterior retrocolic gastro-enterostomy was performed. In only two cases this led to the development of peptic ulcer. Peptic ulcer occurred also in one of the two cases of anterior gastro-enterostomy and required repeated operations for a cure. The author has never attempted transverse resection in benign gastric affections, but has made wedge-shaped resections and typical pyloric resections in five cases each. Two of the former patients died and all of the latter were cured.

The author concludes that in gastric diseases that are undoubtedly benign the operations should be those that give the most favorable prognosis.

In the discussion following Hentle's paper Schmieden stated that simple ligation with additional sutures over the pylorus lead again later to permeability, that the radiological diagnosis of duodenal ulcer is difficult and that peptic ulcer occurs almost exclusively in anterior gastro-enterostomy. In hour-glass stomach transverse resection is indicated. In solitary ulcers far from the pylorus a simple gastro-enterostomy is insufficient. Roepke recommended in pyloric exclusion, the separation of the stomach rather far proximally. He prefers a transverse rather than a partial resection. In post-operative hemorrhage he has employed successfully the injection of 50 ccm. of diphtheria serum with the addition of one injection of seccarum. Dreermann has determined experimentally that a thread tightly knotted around the pylorus gives permanent closure. Extensive ulcers of the lesser curvature be sutures (a longitudinal direction thereby avoiding a kinking of the stomach.

BRITAIN

Einhorn, M. Indications for Duodenal Alimentation (Indikationen für duodenale Ernährungsmethode). *Deutsche med. Wochenschr.* 9, 3, 1914, 1914. By Zentralblatt für Chir. Göttingen.

By duodenal feeding is understood the nutrition of patient while the stomach remains empty. This is made possible by introducing into the stomach small siphon tube which then enters the duodenum. In a normal person it requires from two to three hours for the beginning of the sound to reach the duodenum. In patients with pylorospasm longer time is necessary. Thirty-six hours is the longest time observed by Einhorn. Nourishment is given every two hours (5 times a day) and consists chiefly of milk, eggs, and one teaspoonful of lactose. Once or two teaspoonful of butter may be added to every second meal.

The author first used an irrigator to inject the nutritive fluid but now uses syringe with a triple stopcock. As test to determine whether the sound has reached the duodenum, the fluid is sucked up out of the sound. If the fluid comes from the stomach it is acid, if from the duodenum it is alkaline. A colored fluid may be given by mouth to find out if it can be aspirated through the sound. The nutritive fluid should always be at body temperature. As the sound must remain in place long time it is important to clean it after every feeding with water and air to prevent obstruction. In addition to the food Einhorn turned out about one liter of physiological salt solution daily.

In the last three and a half years the author has used duodenal alimentation in eighty-four patients, in each case an average of from ten to fifteen days. The indications for this method of treatment are: (1) Ulceration of the stomach and duodenum, (2) gastric dilatation without organic obstruction marked atony with and without pylorospasm, (3) nervous vomiting and the vomiting of pregnancy, (4) diseases of the liver to limit the blood supply to the

portal vein and (5) inoperable carcinoma of the stomach and cardia without stenosis. Koca.

Paterson H. J. The Physiology of Gastro-Jejunostomy. *J. Internat. Cong. Med., Lond.* 1913, Aug. By Surg., Guyne. & Obst.

The prevailing view is that gastro-jejunosomy is drainage operation. Paterson gives reasons why it should be regarded as physiological operation.

Bile and pancreatic juice are present in the stomach almost invariably after gastro-jejunosomy.

The evidence of this is, that there is an almost constant increase in the mineral chlorides of the gastric contents after gastro-jejunosomy (99 per cent of the author's cases).

This occurs although there is, as a rule (75 per cent of the author's cases) diminution of the total chlorides.

After undoing gastro-jejunosomy this increase in the mineral chlorides disappears again.

Illustrative case No. gastric analysis.

Before gastro-jejunosomy

Total chlorides	470
Free HCl	051
Protein HCl	89
Mineral chlorides	080

After gastro-jejunosomy

Total chlorides	368
Free HCl	000
Protein HCl	53
Mineral chlorides	

After the gastro-jejunosomy was undone.

Total chlorides	343
Free HCl	8
Protein HCl	270
Mineral chlorides	55

If an entero anastomosis is performed as in gastro-jejunosomy this increase in the mineral chlorides is not observed.

Illustrative case No. gastric analysis.

Before gastro-jejunosomy

Total chlorides	333
Free HCl	003
Protein HCl	73
Mineral chlorides	56

After gastro-jejunosomy and entero anastomosis

Total chlorides	0 390
Free HCl	000
Protein HCl	26
Mineral chlorides	124

This increase in the mineral chlorides does not occur as a rule after other operations, e.g. after appendectomy. Therefore the inference is that it is due to the entrance of bile and pancreatic juice into the stomach through the anastomotic opening.

The average increase in the mineral chlorides in the author's cases is 97 per cent.

Bile and pancreatic juice contain about 0.5 per cent of sodium chloride therefore, after gastro-jejunosomy the gastric contents contain less than 50 per cent of bile and pancreatic juice, the amount of bile being less than 5 per cent.

Effect of gastro-jejunostomy on gastric secretion. The total acidity is lowered; the average diminution being 30 per cent. This is due partly to neutralization by bile and pancreatic juice and partly to diminished secretion.

Effect of gastro-jejunostomy on the motility of the stomach. In the absence of pyloric stenosis gastro-jejunostomy slightly hastens evacuation of the stomach but the acceleration is not sufficient to account for the beneficial effect of the operation. This is against the view that gastro-jejunostomy is a drainage operation.

Effect of gastro-jejunostomy on gastric digestion. Gastric digestion is impaired but not lost after gastro-jejunostomy. The impairment seems to be due to loss of free hydrochloric acid.

A report is given of observations made upon patients that were placed upon Schmidt diet after gastro-jejunostomy and of observations obtained with the red carmine fibrin test.

Effect of gastro-jejunostomy on metabolism of human body. Gastro-jejunostomy has no material effect on the metabolism of the human body. The investigations of Riley and Goodbody on the metabolism of healthy individuals gave the following results:

PER CENT OF INTAKE

Highest absorption of nitrogen	97
Lowest absorption of nitrogen	90
Average (75 cases)	93.46
Highest absorption of fat	98.5
Lowest absorption of fat	90
Average (9 cases)	95.5

In twelve patients who had gastro-jejunostomy had been performed, the author found that in every instance the amount of nitrogen and fat absorbed were within these limits.

Conclusions

1. A certain amount (less than 1 per cent) of bile and pancreatic juice enters the stomach after gastro-jejunostomy.

2. The total acidity of the gastric content is diminished, on an average by 30 per cent. This is due partly to neutralization of free hydrochloric acid by bile and pancreatic juice and partly to earlier stimulation of the pancreatic secretion and compensatory earlier lessening of the gastric secretion.

3. Gastric digestion is impaired but not lost after gastro-jejunostomy.

4. The motility of the stomach if there be no pyloric stenosis, is for practical purposes unaffected by gastro-jejunostomy.

5. Gastro-jejunostomy has no material effect on the absorption of nitrogen and fat. This chemico-pathological evidence is supported by the evidence of clinical experience.

The author concludes that gastro-jejunostomy is a physiological, and not a mechanical operation. Probably the most important result of this operation is that bile and pancreatic juice in small quantities gain entrance to the stomach.

Practical lessons

Occlusion of the pylorus is an unnecessary complication of gastro-jejunostomy.

Excision of simple ulcers is unnecessary if gastro-jejunostomy be a physiological operation.

The view that malignant degeneration of gastric ulcers is frequent after gastro-jejunostomy is contrary to clinical experience.

Eastman J. R. Fetal Peritoneal Fold and Its Relation to Postnatal Chronic and Acute Occlusions of the Large and Small Intestine. *J. Am. M. Ass.* 913, 1st, 635.

By Surg. Gynec. & Obst.

The author describes several peritoneal fetal folds of fully constant form and distribution and shows their latent possibilities in regard to occlusions of the large and small intestine.

The position and attachments of certain of these folds suggest that they may be causative factors in gravitations and regulations of the terminal ileum. The gastro-mesenteric fold of Reid which passes from the mesentery of the terminal ileum down into the pelvis to the genital gland, for example bears an interesting resemblance to the ilio-pelvic band in the adult which Lane believes is one of the chief causes of a downward kink in the ileum.

As Reid fold is continuous above with the duodeno-colic ligament it is possible that, by contracting it may cause an upward kinking of the terminal ileum. This may be true also of the rather constant ileocolic folds and the so-called root folds.

The author found Reid fold in fourteen of thirty-four fetuses and also in the adult. He suggests that Lane's ilio-pelvic band and Reid fold are identical and that it may have been formed by the dragging down of the dorsal peritoneum in the descent of the right ovary or testis.

In regard to the bloodless fold of Treves, Eastman states that there is considerable evidence to show that this fold begins as an adhesion between the cecal head and the mural peritoneum and that at the time of fetal torsion the serosa of the peritoneum of the lateral abdominal wall is drawn over the caput to form a pocket-like fossa containing the caput and the appendix. The pericolic fold is formed by similar fusion and torsion at a higher level of the ascending colon.

Another rather common fold that may bind down the cecum and the appendix is described as being of a skirt-like form. It passes from the terminal ileum above, downwards around the basal half of the appendix, and then upwards to blend with the serosa of the caput.

The adhesions of the colon to the peritoneum of its own mesentery also are believed to be persistent fetal adhesions.

This article is closed with the report of the author's case in which an extensive formation of pericolic membrane led to an acute and complete obstruction of the ascending colon. The division of the mesentery resulted in recovery. PETERSON M. CHASE.

8 mmers, J. L. Surgical Aspect of Intestinal Stenosis from an Anatomic Point of View. *J. Am. M. Ass.* 9, 3, 151, 630.

By Surg. Gyrec. & Obst.

The author concludes from his experience that the membranes of the pericolic type of J. Jackson may be found in every abdomen either on the right side or in the lower left quadrant that the symptoms, as a rule, are produced in distention and appear usually after the fifth year of age and that despite the time of the beginning of the symptoms, there is never any sign of anything wrong that can be attributed to the membranes; the latter should be regarded, on the whole as purposeful and not offensive. If it is felt that these membranes may become offensive early, they should be considered congenital defects the same as a cleft palate or extra toes. They may also become restrictive instead of obstructive, on the untoward base of the caecum and colon, with resulting loss of tone. When the intestinal symptoms are not relieved by treatment the case should become surgical.

The operation of McKeown and his recommendation is discussed in reference to eight cases operated upon by the author. Sumner recommends also the plication of the transverse colon; the technique of Coffey.

He advises releasing these congenital membranes when they are restrictive. A rule this should be done at their lowest line of attachment. In other cases that require greater mobility of the colon, however, it should be done at the line of attachment of the pericolic membrane and parietal peritoneum which invariably occurs. What has been tension is made on the vessels (the direction of the fibres and blood vessels). *Proc. Am. Surg. Soc.*

Tichbornoff, I. A. Inflammatory Diverticula of the Appendix. *Zur Frage der entzündlichen Divertikel des Wurmförstörns*. *Frank. Ger.* 9, 5, 11, 63. By Zentralbl. f. d. ges. Chir. *Leipzig*.

The author reports six cases of appendicitis. In the appendix there are found typical diverticula. The appendix, formed from the mucous membrane that bulged through defect of the muscularis. In one case the art. of the perforation of the diverticulum could be demonstrated. The other the mucosa was markedly trophic and thin. The wall of the appendix also had very marked inflammatory changes. In both cases increased intra peritoneal pressure as indicated in one case the lumen (instead of being dilated) as plainly dilated and the whole mucosa was thinned. Another case there is an extreme trophy of the mucosa. After searching examination of the literature and on the basis of his own observations the author assumes that the diverticula are the give cases developed from an inflammatory basis as the result of circumscribed lesion of the muscular wall and additional increased pressure in the appendix. He regards diverticula as of considerable clinical significance because they can readily be retained; there mucus and bacteria

which may cause a recurrent enteric inflammatory process, and further because diverticula lead to perforation. Finally the author points out the fact that pseudomyxoma of the peritoneum may be caused not only by rupture of ovarian cysts, as formerly supposed, but also by rupture of cysts and diverticula of the appendix. *Von Hoyer*

Kort, W. The Operative Treatment of Mitigating Diseases of the Large Intestine, Especially the Rectum. The operation. *Behandlung der malignen Divertikulose und Geschwülste des Rectums*. *J. Internat. Cong. Med. Lond.* 9, 3, 937. By Surg. Gyrec. & Obst.

The author based his paper upon his own material, 54 cases in all and the reports that have been published in the literature since 1900.

The mortality of the radical operation is still quite considerable amounting to 757 cases; the literature 5 or 5 per cent. The 83 radical operations performed by Kort since 1900 yielded a mortality of 50 per cent. The mortality figures of the last decade show some but better results.

The particular dangers arise from collapse and peritonitis, and it is these are caused by the peculiar anatomical conditions of the large intestine and the diverticula that rise from the intestinal caecities.

Great occlusion of the intestine is very frequent complication of a morbid of the large intestine occurring about 35 per cent of the cases. In this condition the attempt must first be made to evacuate the intestine (irrigation or colostomy). The radical operation should be secondary (several stage operation).

When well vent evacuation of the bowels, good blood supply of the extremities of the intestine and the possibility of approximating them without great delay (them reposition and suture in one stage) is the best procedure.

The peculiar anatomical conditions of the different part of the large intestine demand corresponding different methods of operation. The prognosis for permanent cure in cases of carcinoma of the large intestine is relatively favorable. Kort reports cures lasting from three years to twenty-one years in 77 per cent of the cases of radical operations or 30 per cent of the survivors.

Of the palliative operations antero-anastomosis is the best method in the absence of intraluminal obstruction. Colostomy or ileostomy is the first method for cases of intestinal obstruction. Radical operations (colectomy or entero-anastomosis) must be secondary and should be performed only after the intestine has been evacuated.

Case J. T. X-Ray Observations on Colonic Peristalsis and Antiperistalsis with Special Reference to the Cecocolic Valve. *J. Internat. Cong. Med. Lond.* 9, 3, 947. By Surg. Gyrec. & Obst.

The author bases his study on the examination of 500 cases following the ingestion of bismuth meal.

Antiperistalsis was observed in thirty-seven. In most instances, it-peristaltic waves originate in the transverse colon near the hepatic flexure proceed toward the cecum and disappear usually at a point that corresponds approximately to the ileocecal junction. Antiperistalsis has been seen also in the descending colon, especially in case of marked acute obstruction of the bowel.

The author's observations have confirmed the presence of a tonic contraction ring in the right half of the transverse colon as claimed by Cannon on the basis of roentgenological examination on animals. The exact location of the tonic ring may be the tonicity of the proximal half but usually at a point near the middle of the right half of the transverse colon.

The writer calls attention to phenomena on that has been previously described in him as signs of serious bowel obstruction, as indicated by peristalsis. It has been noted that in every case of carcinoma of the colon that he has studied, it is such that it occurred in all parts of the colon. It has been recognized by the spontaneous constipation and benign obstruction of the bowel. Also in every case studied by the author, which ileostomy had been performed, retrograde peristalsis was observed in the left half of the colon after the operation.

Cases studied by mass peristalsis. These were first described by Hohlbecher who reported his observations during the last sixteen months. The author has noted movement of this type in thirty-seven patients. The bowel content suddenly lost their habitual markings and was formed into an oval sausage-shaped mass which had perfectly smooth edges and was rounded at the ends. This mass traveled slowly about the circumference of the peristaltic waves in the transverse colon. The distance traveled varied from three or four inches to several feet. After cooling to rest, the mass regained its habitual markings. The time of their reappearance depended upon the consistency of the bowel contents, being brief if the contents were semi-fluid and longer if they were of firmer consistency.

The effects of massage, mechanical vibration and electrical stimulation of the peristalsis of the colon were also studied in a number of cases. The immediate effects observed were deepening of the haustral contractions and sometimes the appearance of antiperistaltic waves. The author concludes that the recognized functional effects of massage and mechanical vibration upon the motility of the bowel must be produced indirectly by increasing the tone of the bowel muscle rather than by any actual mechanical pressure of the bowel content outward. In order to produce any true electrical stimulation of the bowel wall, bipolar electrode must be employed.

Special attention was given to the study of the function of the ileocecal valve on the theory that our present knowledge of the antiperistaltic function of the colon demands all the more recognition of the

normal competency of the ileocecal valve. In the 500 cases above referred to, incompetency of the ileocecal valve was noted in nearly 250 instances, or once in six. Such a large proportion of incompetent ileocecal valves is explained by the fact that the 500 cases were gastro-intestinal cases limited for the most part to the study.

The author states that the old idea that insufficiency of the ileocecal valve causes diarrhea is erroneous. In most cases of insufficiency of the valve the opposite condition, i.e. constipation, prevailed. The fact that fecal stasis and constipation rather than hypermotility is observed when reflux from the colon to the ileum is longer prevented by competent ileocecal valve is explained by our knowledge of antiperistaltic phenomena in the colon.

While it is generally recognized that rectal anastomosis is the most satisfactory therapy for the whole, which has been successful to the extent of the colon to use of it.

Korbi II. Continence of the Bowel After Radical Operation for Carcinoma of the Rectum (Die Kontinenzverhältnisse nach den radikalen Operationen des Mastdarmkrebes) Arch f. Klin. Chir. 9, 5, 449. By Zentralbl. f. d. ges. Chir. L. Grenzgeb.

Korbi discusses continence of the bowel on the basis of data collected in two hundred and four cases of resection of the rectum in von Eiselsberg's clinic. He divides these cases as follows:

I. Cases in which the sphincter was sacrificed. In one plastic operation according to Schoemaker as attempted in the new sphincter. The result seemed good at first but at the end of two years there was incontinence for liquid stools. In Anus sacralis according to Hochenberg, i.e. deflection of the bowel to the right and fixation beneath the resected sacrum. Only after six months, and usually after a longer period of desensitization by retention, and treatment consumed an equal period of time. With the return of sensibility the patient could tell when there was movement. At the same time an impulla usually developed. Among the thirty cases which the late results were studied there were eight in which sensibility had been lost permanently. These were almost without exception cases in which as the result of gangrene, there had occurred retraction of the anal end of the gut followed by healing by granulation tissue. These patients did not have premonitory and therefore suffered incontinence. In sixteen cases sensibility was restored and there was no incontinence for formed stools. On a regulated diet about one half of these patients were quite comfortable. In Anus sacralis according to Germany with late results in seventeen cases. Until the end of a year the spiral formation could be easily felt, and although only slight sensibility had returned, premonitory was present and there was no incontinence for formed stools. After at three years the spiral formation was present only in a few cases. In the others, circular folds and ampullae had taken its place. Sensi-

ility was finally restored in all cases and there was premonition for movements. Of ten cases examined after a period of three years only one showed the spiral formation, with no incontinence to speak of, even of liquid feces. Seven had well-developed folds and ampullae. Sensibility and premonition were fully restored for formed stools. For the restoration of these two functions Gersuny's operation is preferable to Hochenegg's as the peristalsis of the large bowel is felt more tensely. The following according to Gersuny therefore, has an advantage over the single ampulla formation.

II Cases in which the sphincter was spared. Except for a few intrarectal carcinomas and operations by the vaginotomy method, the procedures employed were as follows. The method of excision after Hochenegg was used in 11 cases. The results are not very good. There was high mortality from infection. Good functional results were obtained in thirty-six per cent of the cases. Hochenegg's method favors the occurrence of gangrene. The danger can be minimized by incising the sphincter longitudinally according to the method of Hirsch, but this procedure interferes with the functional result. The author claims that this method is indicated only when the operation must be performed speedily and when only the anal mucous membrane can be spared. Circular suture, primary or secondary, as employed in thirty-four cases, with lower mortality and no incontinence in sixty-six per cent of the cases. The author considers this the method of choice for resection of the rectum. The posterior line of suture may be supported by plastic flap after R. iter. T. lessens the number of poor results the method should be used only primarily under absolutely favorable conditions. Otherwise the suture of the anterior part of the circumference should be completed and the posterior part fixed to the skin to produce favorable condition for secondary suture. c. Sigmoidoprostomy after Hochenegg and Eiselsberg (Kropfen) was performed as an emergency operation in three cases. This the author considers the method of choice when a long loop of sigmoid can be drawn easily. d. Combined operation was performed in sixteen cases with thirty-seven per cent mortality.

The objection that the more radical procedures interfere too much with voluntary control to be performed extensively the author refutes on the basis of the end-results in his own cases and of those collected from the literature. HALLER.

Leuk, R., and Elster F. Experimental Radiological Studies on the Physiology and Pathology of the Alimentary Tract (Experimentelle radiologische Studien zur Physiologie und Pathologie des Verdauungstraktes). *München. med. Wochenschr.* 9 & 14, 1913.

By Zetserbl. f. d. ges. Chir. u. L. Grossbach.

The authors report the results of experiments carried out on animals for the radiological study of

the stomach. In contrast to their observations on the normal stomach they found that in hypacidity the peristalsis is stronger and the emptying of the stomach is more rapid. In hyperacidity on the other hand, there was no deviation from the normal (which fact contradicts the prevailing belief). Motor disturbances in gastric diseases, therefore, have no apparent connection with the chemistry of the stomach. This view is confirmed also by comparative observations on human beings. BOSE.

Carmen, R. D. The Technique of Röntgen-Ray Examination of the Gastro-Intestinal Tract, and the Interpretation of Screen and Plate Findings. *J. Am. M. Ass.* 9 & 14, 1913.

By Surg. Oyster & Oat.

The technique of bismuth X-ray work on the stomach and colon used by the author at the Mayo clinic is described in some detail. Both fluoroscopic and plate methods are used. A marked preference is given to either one as the information obtained by each is somewhat different in character. These methods, therefore, are not in competition and both are used in routine in every case. Most of the data, however, is obtained during the screen examination, two or more subsequent plates acting as a check up for confirming or amplifying the data previously obtained. A double meal is given.

The materials used for ingestion and injection, and the purpose of each, the general outline of instruments and the method of using them, and the manner of recording, have been previously described.

Printed forms are used for all records which contain a classified form all conditions commonly seen well spaces for unusual data and conclusions. The recapitulation sheets contain the diagnostic points boiled down. This is a very complete permanent data can be preserved for future reference and comparison.

Points of diagnostic significance are sifted out and the combination may be strong enough and characteristic enough to point to a single diagnosis. Experience in radiology is gradually formulating X-ray sign complexes which are analogous to the symptom complexes in ordinary clinical use. The X-ray findings in given cases are diagnostic of one or another lesion in proportion to their coincidence with the known sign complex of that lesion. In one case the X-ray results alone may be diagnostic, while in another abnormal X-ray findings may be quite lacking.

In arriving at a diagnosis, therefore, it is necessary to consider X-ray findings as supplemental and contributory to other methods.

Quoting from the author. Visualization of cancer of the stomach with obvious filling defects, or a gastric ulcer with characteristic hernia or niche is so dramatic that the erubescant cathodoluminescence aroused has unfortunately created the impression in some quarters that the Röntgen-ray is ready to supersede the ordinary clinical methods of diagnosis. This impression should be discouraged.

for in the vast majority of instances the ray is only link in the chain. The X ray is not a rival of clinical methods, but a most valuable adjunct thereto, and worthy of routine employment.

HOLMES E. PORTER.

LIVER, PANCREAS, AND SPLEEN

Parlaviccio, G. A Rare Case of Hydatid Cyst of the Pancreas Cured by Marsupialization (*Un cas rare d'hydatide du pancréas guéri par la marsupialisation*). *Panorama méd.* 93, No. 5.
By *Journal de Chirurgie*.

Echinococcus cysts of the pancreas are very rare. Hauser, in 91 could find only twenty-eight cases in the literature, even counting the doubtful ones. Only eight of these were operated on. All were cured. In one case the pericystium was extirpated by another Bobroff's method was used. Incision, extrusion of the parasitic cyst, injection of an indifferent fluid into the pericystium, and suture in three cases; resection of the pericystium and in five others marsupialization.

The author's patient was a woman twenty-six years of age. For eighteen months she had experienced a sense of heaviness and tension in the epigastric region, her appetite was poor, she was constipated, but had neither vomiting, icterus, diarrhoea or melena. She grew thin and at the end of eight months had an epigastric tumor as large as an orange, which was diagnosed as cyst of the mesentery.

On examination there was found a prominence in the supra-umbilical region, little to the left side. This was moved slightly by respiration. Palpation showed a hard, elastic, spherical tumor, the posterior wall of the abdomen, which could be moved slightly both vertically and horizontally. Percussion showed the stomach above it and intestinal tympany below and on the sides. There were no scars or other objective signs. A diagnosis was made of cystic tumor situated between the two folds of the transverse mesocolon.

On laparotomy a tumor was found between the stomach and transverse colon, behind the gastroduodenal mesentery. As it was very adherent all sides, the idea of entrapment it was given up. It was fixed to the abdominal wall by run of sutures and opened in the center. About quart of fluid and daughter vesicles came out. The body of the cyst was firmly implanted on the tail of the pancreas. Complete recovery resulted and was found to be permanent after nine years.

LACROIX

Kerrill, L. Subcutaneous Traumatic Rupture of the Spleen and Its Treatment (*Über subcutane, traumatische Milzrupturen und ihre Behandlung*). *Upsala Läkartidn.* N F 93, 1916, 114. By *Zeitschrift f. d. ges. Chir.* 1, Göttingen.

Among 33,000 patients received in the surgical section of the Sahlgren Hospital in Göteborg from 189 to 9 there were 36 cases of subcutaneous

injury of the abdominal viscera, 5 of which were injuries of the spleen. During the same period of time there were 8700 cases of injury treated at this hospital. Injuries to the spleen therefore occurred only once in 174 cases of accidental injury and once in every 9 cases of rupture of the abdominal organs.

In four other Swedish hospitals the author has discovered eight additional unpublished cases of rupture of the spleen, making in all thirteen cases. Eleven of these were males. The youngest patient was seven years of age and the oldest sixty-seven. Most of them however were children about ten years old and men from twenty to forty years.

One patient who had a fixed and enlarged spleen ruptured it during an epileptic fit and died within fifteen minutes. All of the others had been subjected to severe violence, generally upon the left side. In no case was there a history of typhoid or malaria. In four cases the condition of the spleen was pathological. In three it was moderately enlarged (once being complicated by Laennec's cirrhosis of the liver) and in one it weighed 1500 grams (Banti's disease?). In three cases, besides rupture of the capsule and medulla, there was subcapsular hemorrhage, in six single or multiple partial rupture of the capsule and medulla and in four the spleen was completely almost completely broken into two or more pieces. In four cases the rupture was uncomplicated, once it was complicated by rupture of the liver and the ventricles, once by rupture of the small and large intestines, once by rupture of the diaphragm, once by rupture of the splenic vein, once by rupture of the lung and fracture of the ribs and four times by fracture of the ribs alone.

The author believes that complicating rib fracture is probably much more frequent than is shown by these and other statistics. Pain in the left scapula or shoulder was noticed in any case. As a rule there were no outward signs of injury. Three patients died immediately after the injury. One of the ten operated upon died. In this case there was also rupture of the liver. The remaining nine recovered after an average time of thirty-two days. The ribs were not resected in any of the cases. Incisions were made as follows: once a simple horizontal incision under the left costal margin, once a median incision, once a vertical incision through the middle part of the sheath of the right rectus, once a similar incision on the left side, and five times a T-incision. Tamponing was successful in 1 case and failed in one. In another case where the tampon was used the hemorrhage continued, and the next day it was necessary to perform splenectomy. Partial splenectomy was performed twice with good results, on third and one half of the spleen being removed. Total splenectomy was performed in five cases. On examination two to nine months after the operation on evidence of any bad effect was found. In agreement with Stenell the author advises an attempt at conservative treatment by compressing the vessels of the hilus.

Nordlin sums up his conclusions as follows:

The number of cases of rupture of the spleen brought to the hospitals in time for operation seems to be increasing. Therefore every surgeon should familiarize himself with the symptoms and treatment of this condition. There are no pathognomonic symptoms but it is possible to make probable diagnosis. The preferred incision is an exploratory incision from which a transverse incision is made through the left rectus muscle. The spleen should be preserved if possible. Future surgical progress should be in the direction of developing conservative methods.

GIMTZ

Bisch, P. and Weitmann, O. The Inhibitory Influence of the Spleen upon the Growth of Rat Sarcomata (Über den schenkenhemmenden Einfluss der Milz auf das Rattenkarzinom). *Wien. M. W. Anz.* 9, 3, 1907.

By Zentralbl. f. d. ges. Chir. 1, Grenzgeb.

Whenever the authors inoculated sarcomatous tissue mixed with splenic tissue they observed an inhibitory influence exerted by the splenic tissue upon the development of the tumors. The splenic sarcomatous rats exerted more powerful inhibitory action than those of healthy animals. The immunity developing in the body following the absorption of the tumor cells is considerably increased by the injection of ground-up splenic tissue. The animals that remained refractive following the injection of splenic and tumor tissue did not develop any tumors following second inoculation. It is impossible to state what the action of the spleen is in all of these processes. The splenic tissue may increase the natural protective substances of the body or it may exert destructive influence upon the tumor cells by means of ferments. The injection of the splenic tissue in the rat undoubtedly produces a general reaction of some sort which must be interpreted as increasing the immunizing processes resulting from the growth of the tumor cells.

CARL LEWIS

MISCELLANEOUS

Polezoff, A., and Ladygin, M. The Haemostatic Action of Fatty Tissue in the Juries of Parenchymatous Organs of the Abdomen (Die hämatische Wirkung des Fettgewebes bei Verletzungen parenchymatöser Organe der Bauchhöhle). *Frank. Ges. St. Petersburg* 9, 3, 1907.

By Zentralbl. f. d. ges. Chir. 1, Grenzgeb.

Former experiments conducted at the clinic of Oppel and Federoff showed that the haemostatic action of transplanted tissue depends upon the presence of thrombokinae, and that therefore tissues that are rich in blood vessels and contain much thrombokinae are the best adapted for transplantation. The authors next conducted experiments to determine the haemostatic action of transplanted fatty tissue. For this purpose injuries were inflicted upon the spleen, kidneys, and liver of rabbits and the wounds sutured over with fatty tissue

or tamponed with fatty tissue. In all cases the bleeding ceased within three to five minutes. All of the animals withstood the operations well. The authors tested the method on three human patients. One case was severe subcutaneous rupture of the left kidney with severe hemorrhage which could not be controlled with the usual methods. A piece of the perirenal fat was therefore transplanted and the hemorrhage ceased immediately. The patient was discharged cured. The other two cases were severe stab wounds of the liver and lung. In both, a piece of subcutaneous fat was transplanted and the hemorrhages ceased within short time.

The experiments revealed the fact that fatty tissue has as good haemostatic action as other tissues although it contains only a small amount of blood and consequently only little thrombokinae. It is doubtful, therefore, whether thrombokinae is really the principal factor in the haemostatic action of transplanted tissue. At the present time the authors are determining the quantity of thrombokinae that is contained in fatty tissue.

VON HOUT

Fowler, R. S. The Elevated Head and Trunk Position in the Treatment of Surgical Lesions of the Abdomen. *J. Internat. Cong. Med. Lond.* 9, 3, Aug.

By Surg. Gynec. & Obst.

This paper is based on the author's observation of over 300 cases of diffuse septic peritonitis and study of those operated upon by other surgeons.

The explanation of the value of the elevated head and trunk position given by the author is as follows: The peritoneum is an enormous lymphatic, and its inflammation is therefore lymphangitis. The peritoneal absorbents are represented by lymphatics in the structure of the peritoneum. These lymph-channels are large and numerous in the neighborhood of the diaphragm, and have comparatively large openings or stomata in the intestinal area, the lymph-trunks and stomata are less numerous, and in the pelvic area the larger lymph-channels and stomata are absent. In localities where the lymph channels are large, as in the upper abdomen, especially in the diaphragmatic area, absorption occurs before the lymph-channels can be obliterated, and the organism becomes overwhelmed. It follows, then, that if the toxic products can be confined to or drained from the lower abdominal or pelvic area, inflammatory oedema of the capillary lymphatics will result and absorption will be retarded to great degree. It is this result that makes the elevated head and trunk position of value in surgical lesions of the abdomen.

In treating cases of peritoneal involvement, all septic material should first be removed as rapidly and with as little disturbance of the peritoneum as possible. Advantage should be taken of the force of gravity in order to facilitate the passage of fluids from abdominal areas to the pelvis. The latter is accomplished by means of the elevated head and

trunk position and has for its purposes (1) The lowering of the rapidity of the absorption of septic products by retarding the normal intraperitoneal way toward the diaphragm. (2) The relief of diaphragmatic pressure and the forcing of normal respiration. (3) The promotion of normal peristalsis, both gastric and intestinal. (4) The localization or prevention of the spread of infective processes in the pelvis.

R. W. M. KEELY

Carré, A.: Concerning Visceral Organisms. *J. Exp. Med.* 9, 3, xviii, 1915.

By Surg. Cyder & Olet

Carré gives an account of his experiments in which he kept animal organs alive and functioning after their removal from the animal body. Abdominal and thoracic viscera removed from the animal

dogs were kept in Ringer's solution at 38 degrees centigrade. The lungs were ventilated artificially. Food and water introduced into the esophagus were digested. Faeces were excreted from the artificial anus. Urine also was excreted. The heart beat varied from 20 to 50.

The organisms lived for periods of from three to thirteen and a quarter hours after the death of the animal from which they had been taken. In some instances the death of the organisms occurred rather suddenly. Usually, however, it was preceded by irregularity and weakness of the heart beat. In some cases the heart-beat was weak after the removal of the organs from the animal body but it became strong immediately after transfusion from another animal of the same species.

JAMES F. CHURCHILL

SURGERY OF THE EXTREMITIES

DISEASES OF BONES, JOINTS, MUSCLES, ETC. GENERAL CONDITIONS COMMONLY FOUND IN THE EXTREMITIES

Frauenhath, H. W.: Syphilitic Bone and Joint Conditions. *T. Internat. Cong. Med. Lond.* 9, 3, 1915. By Surg. Green & Olet

This paper was presented for the purpose of drawing the attention of the orthopedist to the frequency of bone and joint lesions in inherited and acquired syphilis. These must often be regarded as tubercular rheumatic etc., for in the reports of orthopedic institutions, few cases are given.

From a review of the literature published in England and America, the author is convinced that syphilitic joint conditions have not received the consideration to which they are entitled. The observations and statistics of the most eminent continental observers show much larger percentages of cases. Osler in one of his recent statements, claimed that 50 per cent of the human race die from either direct or indirect effects of syphilitic infection.

According to Fournier 30 per cent of all cases of congenital syphilis have joint diseases. Von Hippel states that 56 per cent have arthritis, and Schüller claims that 7 per cent of all joint diseases in children are syphilitic.

To arrive at a correct diagnosis by system of exclusion, the following points in inherited and acquired syphilis should be taken into account in determining bone and joint syphilis.

1. Blood tests (1) The finding of the spirocheta pallida (2) the Wasserman test and (3) the Noguchi test.

2. Night pain in the bones.
3. X-ray findings in bone and joint conditions (1) Periosteal thickening, (2) uniform bone shadow that is a unification of compact and cancellous tissue first reported by the author in 1906 (3) process appearing by contrast, as light area, and

which is gummatous destruction of the bone (4) epiphyseal hypertrophy detachment, etc. (5) bone tumors and (6) bone cysts.

4. Epiphysitis Syphilitic epiphysitis is characteristic of congenital syphilis as has been described by Barlow Fournier Fournier and Taylor

5. Lymphadenitis General lymphadenitis should cause the suspicion of syphilis.

6. Anti-syphilitic treatment A doubtful diagnosis may be confirmed by a course of anti-syphilitic treatment.

Attention is drawn to the fact that a syphilitic hydrops of the joint precedes the eruption both in congenital and acquired syphilis and that syphilitic and tuberculous processes often occur simultaneously in the same lesion, a fact that must be remembered in the differential diagnosis.

Through the reports of cases of syphilitic bone and joint disease in which mistakes had been made in diagnosis or which presented some peculiar syphilitic condition.

Observers have stated that in congenital syphilis about one half of the cases develop arthritis. In doubtful cases the author advises submitting the patient to Wassermann and Noguchi blood test but he has found that in some cases in which a negative Wassermann is obtained small injection of salvarsan or mercury salts in syphilitic cases will give positive reaction.

It is pointed out that tubercular discharge from joint does not exclude the possibility that syphilis may be the real cause of the joint disturbance, and if the syphilis is treated the tubercular infection may often be cured.

At the Hospital for Deformities and Joint Diseases there was found in 15 per cent of the cases a tubercular invasion on syphilitic base. A marked improvement was obtained in these cases by the addition of salvarsan and iodide to the other treatment.

Wachner F. Acute Osteomyelitis and Plastic Operations on Bone in Childhood; from the Material of the Emperor and Empress Friedrich Children's Hospital for the years 1890 to 1912 (Über das Osteomyelitis und Osteoplastik im Kindesalter bearbeitet an dem Kaiserlichen Kinderspital der Kaiserin Friedrich-Kinderkrankenanstalt in der Friedrichs-Strasse vom Jahre 1890-1912). Arch f. Kinderh. St. 119, 2, 1-12, Festsch. f. Adolf Nagelsky 74.

By Zentralbibl. d. d. ges. Chir. Grossegh.

This work is divided into consideration of osteomyelitis in childhood and thorough review of Gluck's methods of plastic operation on bone for defects caused by osteomyelitis and similar processes.

The author notes the frequency of streptococcus infection of bones and joints in infancy and the prevalence of mixed infections later. Of the infectious diseases, scarlet fever is the most apt to be followed by osteomyelitis. The infection results from embolus at the points where the bone is particularly rich in blood vessels. Trauma is often a contributing factor.

The prognosis depends upon the severity of the general symptoms. Prompt limitation of the focus of infection improves the prognosis and lessens the danger of general septicemia. In children the neighboring joint are frequently involved by metastasis. Suppuration does not always take place for many beginning inflammations are overcome by the vitality and bactericidal power of the tissues.

The diagnosis is not always easy in early childhood. Violent general symptoms (fever) local pain, doughy swelling around the bone and florid redness of the affected limb will be noticed before the roentgen picture shows any changes.

The treatment consists in carefully opening the periosteal sheath. If the general symptoms continue the bone should be opened about the middle. In spite of the early removal of affected bone most or less extensive necrosis can not always be prevented. In the 90 Gluck replaced the defect with ivory and obtained good cosmetic and functional results, as is shown by a great number of roentgen pictures. The results of operations that he performed 1890 and 1891 have been permanent. The vein in which the whole tibia was replaced by ivory are especially interesting. Even when the permanent replacement of the bone by the ivory was prevented by the formation of fistulae however the ivory served purpose as temporary fixation, preventing the sinking-in of the soft tissues of the limb and acting as an irritant to stimulate the formation of new bone.

Pictures are given showing artificial knee-joints and cases of plastic operations with bony bones, metal rods, and bone from the same individual that grew in very well in spite of previous treatment with bichloride solution.

In conclusion reports are given of 10 cases. In one the entire tibia except small piece of the diaphysis at the upper end was removed. The

astragalus also was resected. The bone was replaced by the shaft of the fibula and an artificial joint formed between it and the calcaneus. A picture taken after fourteen years had elapsed showed a new joint formed between the calcaneus and the fibula which had developed the strength of a normal tibia. In the second case the entire tibia, patella, and astragalus were resected and the tibia replaced by the fibula. After five years not only had the fibula increased decidedly in length and thickness but new bone had been formed from the fragment of periosteum that remained. Satisfactory.

Bachler H. W. Typhoid Periostitis. J. Am. Rad. Soc. Boston, 9, 3, Oct.

By Surg. Lynec & Obel.

Dittler reported cases of chronic periostitis with new bone formation which were first diagnosed as syphilis on the basis of both clinical findings and roentgenograms.

These cases gave negative Wassermann but the clinical notes are so suggestive that the patients are placed on a syphilitic treatment though without benefit.

The author had examined one patient three years previously when the latter was convalescing from typhoid. At that time he undoubtedly had typhoid periostitis according to both clinical and roentgenographical findings. No more of the bone changes were present that were found three years later and from which the diagnosis of syphilis was made. Neither mercury or neo-salvarsan improved the patient's condition and it finally decided to try the effect of typhoid vaccines.

Two cases were treated, one by Lenson and another by Daniels. The pain in the legs and the other symptoms disappeared and symptomatically the patients are cured.

Further to roentgenograms recently taken show no marked change in the bone picture and the patients report that there has never been any return of the symptoms previously complained of.

In conclusion, the author states that there may be marked similarity in the bone changes of chronic typhoid periostitis and syphilis and careful attention to the clinical history may be necessary to avoid errors in diagnosis.

Talbot Dodd, and Peterson. Experimental Scorbutus and the Roentgen Ray Diagnosis of Scorbutus. *Annals of Surg. & Gynec.* 12, 10, 4, Oct., 12.

By Surg. Lynec & Obel.

The first line seen in radiographs at the ends of the diaphyses of the long bones has been considered by previous writers to be constant in, and peculiar to, the scurvy. This line which is due to selective increase in calcium deposit at this point has been seen in advance of the clinical or radiological signs of subperiosteal hemorrhage and persists for months after an apparent cure.

When scorbutus is associated with rickets, radiographs show in addition to the white line,

distinct roughening of the ends of the bone shaft as if it were teased out with a needle. Also in certain cases of syphilis white line has been noted occasionally but it is by no means constant.

Experiments were conducted by the authors to test the constancy and further explain the pathological condition that results in the white line. Guinea pigs and monkeys were used. Fed with oats or bread and water the younger guinea pigs succumbed before the arrival of clinical scorbutus. The larger pigs survived about forty days, and although a definite white line could be demonstrated radiographically in one or more cases, the epiphyses were rather too well united to correspond to the stage of development seen in infants. On microscopic examination the white line was found to be the seat of definite increase in the density of the bone.

A monkey fed on unsweetened condensed milk died in three months. Though unobserved during life the characteristic white line at the diaphyseal ends was noted in the radiographs taken post mortem.

These experiments confirm those previously reported in that it was possible to produce scorbutus in the guinea pig and monkey and the condition was accompanied by the radiographical white line that is seen constantly in infantile scorbutus.

HOLLIS E. POTTER

Van der Scheer W M Osteomalacia and Psychosis (Osteomalacia and Psychosis) *Arch f Psych* 9 3 1 845
By Zentralbl. f. d. ges. Psychiat. u. Gerontol. d. Grenzgeb.

Osteomalacia is often reported by the clinical symptoms and microscopical appearance of the bones in osteoporosis. The author examined microscopically the glands with an internal secretion having an influence on the metabolism of the bones, i. e. the thyroid gland, the ovaries, the adrenals, and the hypophysis. He considers osteomalacia a chronic inflammatory process which is produced by definite agents, toxins or bacteria, and which requires special predisposition. This predisposition exists in disturbed metabolism which may arise from functional disturbance of certain glands with an internal secretion.

The author's view explains the frequent occurrence of the disease in pregnant and puerperal and nervous women. Patients with chronic insanity are also much more predisposed to this disease than others. This may be due to the fact that the glands of internal secretion play an important rôle in certain forms of chronic psychoses. RUSSELL W.

Papa, M. Bone Cysts, Ostitis Fibrosa and Multiple Enostoses (Knochencysten, Ostitis Fibrosa und multiple Enostosen) *Verh. M. d. f. Lfgendens. Chir. Ges.* 9 3 1 845
By Zentralbl. f. d. ges. Chir. u. L. Grenzgeb.

The author reports a case of bone cyst in the upper half of the humerus of a 17 year-old girl. The cyst

had given no symptoms and was discovered in the roentgenogram taken because the patient sustained a fracture of the upper arm below the surgical neck from a fall. The roentgen picture showed with certainty that it was a cyst and not a sarcoma that was present. The cyst wall was chiseled out anteriorly and the microscopical examination verified the diagnosis. Consolidation occurred in from six to seven weeks. The function of the arm was restored completely. No cysts were demonstrable in other parts of the osseous system.

The author mentions further a case of fibrous osteitis in the uppermost part of the femur in a 3 year-old woman. The roentgen picture showed a considerable swelling of the left side in the trochanter region, which was permeated with hollow spaces. Cavities were seen also in the collum and the caput. The collum formed almost an acute angle with the diaphysis of the femur. The bone in the acetabulum seemed more transparent than normal. The radiogram of the right hip joint showed merely an irregularity in the joint surface of the caput. A case of cartilaginous exostoses is also reported.

VALLEY

Hass, S L. The Regeneration of Bone from Periosteum. *Surg. Gynec. & Obst.* 9 3 1 64.
By Surg. Gynec. & Obst.

In an original experimental work, the author has endeavored to determine the exact role that the periosteum plays in the regeneration of bone. He presents also a short résumé of the literature, and the opinions of the leading investigators along this line.

The author's observations were made in a series of six two experiments on rabbits, dogs, and cats, which lasted from four to two hundred and forty nine days. All of the experiments were made upon the ribs, which were treated according to a number of methods. The first experiments showed the normal method of regeneration following a simple subperiosteal resection both when bone elements were left in and when they were entirely removed. In another set of experiments the rib was raised from its periosteal bed and a layer of muscle sewed beneath so as to separate it entirely from the periosteum. Bone always grew in from the angle formed by the raised rib and periosteum.

It cannot be denied that the bone may have had some influence in originating the regenerative process but it is significant that the regeneration occurred only when the periosteum also was present. Therefore the author concludes that the periosteum must have acted in some other way than by merely passively directing the distribution of new bone. If ascribes to the periosteum some power possibly of a chemotactic nature which determines the direction in which new bone shall grow. In another series of experiments similar to the above but with the addition of blood-clot to the periosteal space the blood-clot stimulated the periosteal activity even in the absence of any bone connection.

The author's conclusions are as follows: (1) Periosteum especially in the presence of blood-clot, has the power to regenerate bone. (2) Regeneration of bone is not dependent solely upon the presence of pre-existing bone. (3) Regeneration of bone was never found unless periosteum was present.

HARTUNG, A. Unusual Bone Lesions. *T. Am. Radiol. Soc.*, Boston. 9/3 Oct.

By Surg. Gyrec. & Obst.

Two groups of cases are considered in both of which there is more or less generalized involvement of the bone. In one the bone affects practically constitutes the disease in the other the manifestation of coincident lesion.

Group I includes two cases of osteitis fibrosa of the variety first described by Paget in 1877 and commonly known as osteitis deformans. These presented all the usual findings—insidious onset, progressive bony enlargement and deformity, pelvic posture, etc. The X-ray examination revealed a coincident osteoporosis and sclerosis, the fine cancellous markings being replaced by coarse trabeculation. The skulls were especially distinctive in that they showed peculiar mottling.

Case 3 of the first group was an example of osteitis fibrosa cystica first described by Von Recklinghausen in 1891 and commonly known as multiple bone cysts. Repeated X-ray examinations showed a large number of localized deacidified areas. The cortex of the bones much thinned and expanded. Some of these had fractured spontaneously some produced pain, swelling, and others were wholly unsuspected. The case was under observation for over four years and the patient's general health during this time was impaired.

The next group of three cases came under the classification of hypertrophic osteo-arthritis of Marie. Two of them were associated with pulmonary tuberculosis and the third with chronic jaundice due probably to fluke cirrhosis. All three had the characteristic bilateral enlargements of the wrists and ankles associated with some pain and tenderness. Some of the other joints were likewise affected. The X-ray examination revealed an absence of joint changes but marked osteoporosis near the ends of the long bones around the joints involved. This was most marked at the metatarsals and carpi, the ends of the radius, the tibia and the fibula.

Ely, L. W. Diseases of Joints and Bone Marrow. *Am. J. Surg.* 9/3 Dec. 1901.

By Surg. Gyrec. & Obst.

Ely divides joint conditions into two types. Type I includes those cases that are characterized by inflammation or proliferation of the synovia. Type II, those cases that are characterized by inflammation and degeneration of the synovia, degeneration of the marrow and resulting hypertrophy of the bone and cartilage.

As representing Type II the author describes

simple synovitis in which there is no gross pathology and only the synovia is inflamed. The disease shows no tendency to spread and involves only one, or at most two joints. This is a true arthritic deformity in which the infectious element is very feeble in its manifestation. In this class the author puts non-traumatic synovitis and intermittent hydrops. It differentiates it from the various other forms of synovitis.

Severe multiarticular group. It is pointed out that this group is essentially multiarticular and progressive and in involves various joints in succession. Pathologically this group is proliferation of the synovia and in most cases, also of the lymphoid marrow as trophy of the bone (either rarely osteitis, or resorption of calcium salts) and an erosion and destruction of the cartilage which results in subluxations, distortions, and fibrosis and bony ankylosis. The onset and the symptoms vary. There is a tendency toward symmetrical involvement of the joints which is more or less characteristic. The small joints of the extremities are most likely to be the first involved. Still's disease is included in this group.

In representing Type II the author groups osteo-arthritis and the hypertrophic form of Goldthwaite. In discussing the etiology he states that patients with this type of arthritis often suffer with flatulency and intestinal indigestion. In many cases repeated trauma is probably factor.

The author believes that the changes are due to degenerative processes in the bone marrow, the deeper layer of the periosteum and the synovia. The bone and cartilage become hypertrophied. The resulting atrophy of the articular cartilage is due to the growing in of new cartilage and bone beneath. The latter deprive the articular cartilage of its nutrition which it derives from the marrow. The peripheral cartilage becomes hypertrophied, and, either persisting or becoming changed into bone, causes spurs, exostoses, and deformities. When portions of the proliferated cartilage get loose, they give rise to joint mice.

Ely states that constitutional symptoms are not conspicuous and that pain and restriction of function in the affected joint are the chief causes of complaint. The restriction of motion is due to mechanical interference.

J. O. WALLACE.

Reddon, J. The Mechanical Treatment of Hip Disease. *T. Internat. Cong. Med., Lond.*, 1903.

By Surg. Gyrec. & Obst.

By hip disease is meant any chronic inflammation of the hip joint that is not differentiated from tuberculosis, and which, when left untreated, results in more or less diminished range of motion at the joint, with usually some deformity and frequent, if not permanent, limping.

All cases of hip disease demand mechanical treatment, not only very small percentage demand operative treatment, and so, these, mechanical treatment is as essential as for cases not operated upon.

The mechanical treatment falls into three general classes, i.e., plaster of Paris splints (long and short), metal splints for immobilization (of which the Thomas splint is the best type) and traction devices for use in bed and for walking (the T-York splint).

Some cases require treatment in bed for a time; some patients may walk with crutches or the protecting traction splint, and others, at least during the period of convalescence, may with advantage walk on the limb without crutches.

FRACTURES AND DISLOCATIONS

Dollinger B. The Reposition of Fractured Bones under Local Anesthesia (Über die Reposition der Brüche in Lokalanästhesie). *Zentralbl. f. Chir.* 9 3, 21, 763.

By Zentralbl. f. d. ges. Chir. 1. Grenzgeb.

The best treatment for recent simple fractures of the extremities is the accurate reposition of the parts under the guidance of roentgen rays and fixation by means of plaster of Paris splints—the Dollinger bandage. In fourteen cases the author controlled the muscular spasms occurring during the reposition of the fractured bones, by means of local anesthesia. The anesthetic was either injected between the ends of the fracture or given by the circular infiltration method. The author prefers the latter as the easier and more expeditious. When the first method is employed, 1 to 2 cc. of a 1 per cent novocaine-saline solution are injected directly between the ends of the fractured bone. The anesthesia is complete at the end of from five to ten minutes. The author anesthetized two cases in this manner. He recommends the second method, however, as in the first the injection is very painful, the bone fragments very tender and the solution easily numbing the nerves on account of local hemorrhages may readily enter the lumen of a blood vessel and cause increasing poisoning.

By means of a thin needle, 1 cm. in length the author infiltrates the parts from as few points as possible in fractures of the forearm, from 2 points; in fractures of the leg from 3 to 4 points; and in fractures of the thigh, from 4 to 5 points. These points are about 6 or 7 cm. above the fracture line. In cases of larger hematomata they are 10 or more centimeters above. The injections are made to affect the entire transverse section of the part, first the subcutaneous tissues and then the deeper structures, layer by layer. The anesthetic solution should always precede the needle point. After from 10 to 15 minutes the anesthesia is complete and muscular spasm ceases, and the reposition and bandaging of the limb can be accomplished easily in this manner. The author treated among other cases lower thigh fractures, and sutured the patella. When anatomical conditions such as those in fractures of the pelvis, ribs, etc., preclude the use of this method, the injections must be made between the fragments of bones. The author claims priority for the application of the circular infiltration anesthesia in fractures of the thigh. 8000

Speed, K. Juxta Epiphyseal Sprain and Sprain Fracture of the Lower End of the Radius. *Surg. Gynec. & Obst.* 9 3, xvi, 24.

By Surg., Gynec. & Obst.

The diagnosis of injuries to the wrist covering juxta-epiphyseal sprains and epiphyseal fracture in children and sprain fractures in adults is difficult. These injuries differ from the Colles fracture, which we have gotten into the habit of calling all fractures of the wrist. Light on the subject of lower radial fractures was sought by skiagraphic study of the closure of the lower radial epiphysis. Starting with a child seven years of age skiagrams were made of subjects a year apart in age up to a twenty-two-year-old adult. The lower radial epiphysis is the most important because it is there that the greatest growth occurs. Accordingly its health should be guarded to avoid displacements after sprain and fracture and the development of bacterial activity.

At six of the skiagraphic development of this epiphysis demonstrated its growth and closure. At about the eleventh year the ulnar border of the epiphysis begins to close. The closing process slowly travels across toward the inner side of the radius, and the lower epiphysis becomes thicker and larger. The styloid process takes form about the fourteenth year and at the nineteenth year the epiphysis is found to be closed while the styloid process is still growing. The inner side of the epiphysis is the last to close. After the twentieth or the twenty-first year the styloid assumes adult form. On account of the attachment of the strong wrist ligaments in the epiphyseal area, the latter which is the last to become ossified and is subject to severe strains incidental to falls on the hands, is the site of cracks and fractures before other portions of the bone. As the hand is more often abducted than pronated, the main stress in falls occurs on the internal ligaments. The ulnar border of the radius is held firmly by the radio-ulnar ligament. The latter resists and the styloid process gives first. The median edge of the epiphysis, closing last, leaves a weaker spot here to favor this result. The pronator quadratus muscle acting above, tends to pull over the upper part of the radius and to approximate it to the ulna and thus gives additional counterpull to the tearing out force of the internal lateral ligament.

The capsular ligament of the wrist is continuous with the periosteum of the radius, and juxta-epiphyseal sprain, with tearing of these structures causes symptoms as acute as those resulting from epiphyseal or sprain fracture. In sprain, the swelling and effusion of blood are deferred. In this it simulates fracture, which is but farther proof of an identical force. As a rule, if the capsule tears or gives way the bone does not break. The ligament, however, is stronger than the bone or periosteum, and in the majority of tests on the cadaver pulls out the bone surface or causes by its line of stress a sprain fracture extending obliquely with no displacement across the epiphyseal area. The median

4. There is not complete unanimity of opinion regarding the influence of the Lane plates on the rapidity of repair. Some surgeons think that they retard union. It may be difficult to determine this point definitely but in the writer's experience there can be little doubt that they shorten the period of disability by permitting earlier massage of the muscles and mobilization of the joints.

SURGERY OF THE BONES, JOINTS, ETC.

Krabbel, M. Plugging Bone Cavities with Free Transplantation of Fat (Zur Plombierung von Knochenhöhlen mit freier Transplantation Fett). *Arch. f. Klin. Chir.* 9 3, 4, 1909, 400.
By Zentralbl. f. d. ges. Chir. f. Grenzgeb.

Bone cavities were plugged with free transplanted fat in 15 cases. Four of these were cases of chronic osteomyelitis, five of tuberculous and one of osteosarcoma. The technique employed was the same as that followed by Blackman. In five cases the fat healed in promptly in three the plug was expelled, and in two cases there was tuberculous relapse.

The proximity of an articular cavity or the necessity of opening such a cavity is not a contra-indication for the transplantation. If there be tuberculous infection of the soft parts also besides that of the bones, all of the diseased portions must be removed carefully. If a fistula forms the plug must be removed immediately and relapse. The bone-forming advances but slowly and is only moderate after a year's time as is demonstrated by radiograms.

Carr.

Wies, R. The Operative Treatment of Snapping Hip of Luxatio Tractus Ilfiothallia Traumatica (Die operative Behandlung der schnappenden Hüfte der Luxatio tractus iliothallia traumatica). *Monatsschr. f. Unfallheilk. u. Grenzgeb.* 9 3, 4, 1909, 6.
By Zentralbl. f. d. ges. Chir. u. f. Grenzgeb.

In the case described the painful snapping of the hip occurred after fall against railroad track. On operation, completely isolated tendon-like part of the iliothall band, the width of finger was found stretched over the trochanter, in no way connected with the tendinous or muscular part of the gluteus maximus and completely separated from the tensor fasciae latae. The band was cut as it would have been of no use even if it was sutured to the posterior surface of the trochanter. The Trendelenburg sign was also negative. The patient was able to walk within twelve days after the operation.

GRAHAM.

Schewandlin, M. The End Results of Lexer's Arthrodesis of the Ankle-Joint (Endresultat der Lexer'schen Arthrodesis am Sprunggelenk). *Arch. f. Klin. Chir.* 9 3, 4, 1909.
By Zentralbl. f. d. ges. Chir. Grenzgeb.

Nine cases are reported in which arthrodesis of the ankle-joint was performed by Lexer's method, the use of a wedge of bone from the tibia with periosteum and marrow or of a section of the fibula throughout its entire thickness. In every case the bone sections were obtained from the patient.

After the operation a plaster of Paris cast was used for from six to eight weeks. At the end of that time an ambulatory splint was worn for from two to four months. The cases have been observed from two to five years after operation. Five cases were examined personally by the author. Four patients sent a written report of their condition.

In the first group there was one case of osseous arthrodesis, but in this patient, fourteen months after the operation, the malleolus was fractured to correct the position of the foot. The author believes that this procedure completed the ankylosis. In the second group one patient reports that he walks without pain, steps with the whole foot normally and that there is no lateral movement.

By this method bony ankylosis in the articulation between the tibia and the astragalus does not occur often. It is more frequent if the articulation between the astragalus and os calcis. The arthrodesis lasts only until the interposed bone is absorbed, which requires different lengths of time in different cases. The cases all made uneventful recoveries.

WITTEK.

Depage. Resection of the Posterior Tarsus (Résection du tarsus postérieur). *Ann. Soc. Chir. de Chir.* 9 3, 4, 1909.

By Journal de Chirurgie.

Depage states that methods for resecting the tibiotarsal joint and the posterior tarsus are very numerous and a young surgeon may find it very difficult to make a choice between them when treating tuberculous of the foot. This multiplicity of methods is due in part to the multiplicity of the sites of infection.

When the astragalus is tuberculous it may be removed by Vogt's method. While the removal of the astragalus is often practical, it is, however, often insufficient, for even if the adjoining synovial membranes are all removed tuberculous foci may be left. Furthermore, this operation leaves a flat-foot which is not very serviceable.

Another method is resection of the tibiotarsal articulation by Hueter's method. This gave excellent results in the case reported by Depage. The tibial plateau, astragalus, calcaneum and even the anterior tarsus may be removed, and all of the tuberculous foci may be cut away.

3. The mid-tarsal resection by two lateral incisions according to Koenig's method is not as good as the preceding.

4. Kocher's method of resecting the posterior tarsus and tibiotarsal articulation is of great value.

5. The tibiotarsal resection through an incision in the sole of the foot as recommended by Busch, Szabanejew and Bogdanik has no special advantages.

6. The method of posterior tibiotarsal resection of Vladimiroff-Mikolich as modified by Kroditz

Simultaneously with this treatment massage and gymnastics are begun twice daily. The individual parts of the apparatus are gradually taken off as the patient improves.

The advantage in this method lies in the fact that the patient is able to assume the upright position immediately. As a result there are brought about more favorable circulatory conditions in the spine which favor the absorption of an abscess or edema. Furthermore, on account of the passive stretching of the muscles the spasms are decreased.

SEITZ.

SURGERY OF THE NERVOUS SYSTEM

Stoff L. A. New Facts in Regard to the Nature of Sciatica and New Methods for the Operative Treatment of the Disease (Neurol. über das Wesen der Ischias und neue Wege für die operative Behandlung des Leidens). *München med. Wochenschr.*, 93 ix, 154.

By Zentralbl. f. d. ges. Chir. Gernsbach.

Stoff states that it is incorrect to consider the sciatic nerve as a whole. It is necessary to differentiate within it a number of motor and sensory tracts similar to those in the trigeminal nerve. Diseases of these different individual tracts produce different clinical symptoms. As the various tracts always occupy the same position within the nerve it is possible to attack them individually by surgical measures. The Stoff model of the nerve shows the individual tracts in cross section. The nerve is

exposed the diseased tract is isolated for a distance and severed. Neurolysis of the proximal and distal part may then be performed. The absolute anesthetic zone resulting is surprisingly small. The relative anesthetic zone immediately following the operation is much larger but in time gradually decreases. Trophic disturbances or subjective disturbances never occur as a result of the anesthesia.

In a severe case that resulted in scoliosis, this condition immediately improved after the operation (extirpation of the Nn. ciliar. sens. med. et lat. and its tracts in June, 9) without any special after-treatment. The patient since then has been absolutely without pain. The author intends to publish another article in regard to further details.

SEITZ.

MISCELLANEOUS

CLINICAL ENTITIES—TUMORS, ULCERS, ABSCESSSES, ETC.

De Quervain, F. The Position of Tumors in Nature (Über die Stellung der Geschwülste unter den Naturerscheinungen). *Leipzig: Vogel*, 93.

By Zentralbl. f. d. ges. Chir. Gernsbach.

In this lecture, delivered before a general scientific audience, the author gives his experience of many years in regard to the tumor problem. In general, he recognizes three kinds of morbid stimuli: (1) Physical, (2) chemical, (3) parasitic. The third group cannot be sharply divided from the others, as its effect may be chemical as well as mechanical, but it differs from them in that its exciting cause is living substance. The reactions following their action are also divided into three main groups: (1) Reparatory, (2) inflammatory, (3) tumor-forming.

The relation between cause and effect is discussed briefly with good examples. The parasitic effects, which are discussed more at length, often cannot be limited by time or place. The main part of the work deals with the neoplastic reactions. Their formation by various irritants, and analogous processes in the vegetable and lower animal kingdom, are briefly discussed. Two tables give a survey of the various actions and reactions. Briefly discussed are tumors, especially congenital tumors, in which no irritant is demonstrable. In theoretical investigation the

author regards it as mistaken to separate tumors into benign and malignant, and believes that the tumor problem should be treated as a whole. For the clinician of course the separation is important. Every cell has the inherent ability to form tumors. The author ends his interesting study with a discussion of the subjects of predisposition and immunity, the purpose of tumor formation, healing and prophylaxis.

KLEINWACHT.

Jensen M. On the Vulnerability of Fast Growing Cell Groups. *T. Internat. Cong. Med. Lond.* 93 Aug.

By Surg. Gynec. & Obst.

The author believes that the vulnerability of cells is in direct proportion to the rapidity of their growth. This principle is illustrated by the destructive action of the roentgen ray on fungoid granulations, sperm cells, and other rapidly proliferating cells. This decreased resistance on the part of the more rapidly proliferating cells is seen also in cases where in the same tissue there is a difference in the rapidity of the growth of the cells. For example, the cells of the epiphyseal cartilage discs can be entirely stopped in their growth by the action of the roentgen ray without interfering with the remaining parts of the skeleton.

In the child the same principle is met. The disease in early infancy manifests itself in the form of cranial tabes, a consequence of the rapid growth of the

cranial bones to accommodate the rapidly enlarging brain. In later childhood, the disease affects mainly the skeleton of the extremities, which, during this period, shows the more rapid growth. The author explains the condition of achondroplasia in a similar way. He attributes the lack of cartilage development in this condition to the fact that the fetus is enclosed in an amniotic sac that is too small, and that "squeezes out its blood or most of its blood."

The cartilage the gluton of th tissues suffers first and most from this famine.

The author believes that the increased vulnerability of rapidly growing cells may explain the localization of other pathological conditions, as, for example, the localization of osteomyelitis to epiphyseal ends of the diaphyses, and Caerny's eruptive diathesis to the much exposed outer and inner coverings of the young body. The same principle may play a part in the development of cancer and explain the disappearance of certain rapidly growing tumors during the course of severe infection.

BARNET BROOKS

Well, G. C. Spontaneous and Artificial Development of Giant Cells in Vitro. *J. Pathol. & Bacteriol.* 93, xviii, No.

By Surg. Gynec. & Obst.

Well reports his studies on the method of development of foreign-body giant cells made by carefully observing their formation in cultures of splenic tissue in vitro. Lycopodium spores having been added to the medium to act as foreign bodies. He found that the cellular activity about the foreign bodies follows a rather definite and uniform course.

Polymorphonuclear leucocytes with some lymphocytes promptly migrate to the region of the foreign body surround it and show amoeboid and phagocytic activity for several days, degenerating about the sixth day to a homogeneous mass with irregular nuclear masses, not giant cells.

At the end of about thirty-six hours there appear in the culture large mononuclear cells which are readily distinguished from developing connective cells and which approach the foreign body by their amoeboid activity. These cells engulf the small foreign bodies, and on coming in contact with larger ones flatten out along their surfaces and become multinucleated foreign-body giant cells.

Well was unable to observe the development of the giant cell directly but by comparing the number of large amoeboid cells approaching given foreign body during the development of the culture with the number of nuclei in the giant cells about the foreign body as seen in the final stained preparation, he concludes that the giant cell is the result of nuclear division in an individual cell.

II B. LOOMIS

Harris, W. H. The Association of Tuberculosis and Malignant Growths. *J. Med. Research.* 19, 2, xxviii, 472.

By Surg. Gynec. & Obst.

At present it is an undetermined problem just what relationship it is, if any, that tuberculosis and

malignant tumors occurring in the same area bear to each other. The author records his observations in the case of a white man, forty-five years of age, who presented clinical signs and symptoms indicative of laryngeal neoplasm. As far as could be determined by clinical methods, the lungs and other organs were normal. Repeated sputum examinations showed that no acid fast bacilli were present. The Wassermann reaction was negative. On operation an irregular growth was found protruding just between the junction of the thyroid cartilages. Microscopical section showed this to be a distinct epidermoid carcinoma. A complete laryngectomy was then performed. Microscopical study of serial sections revealed the presence of a distinct epidermoid carcinoma of the spino-cellular type. In the stroma were seen epithelioid cell infiltrations with lymphoid and plasma cells scattered here and there. These infiltrations arose from underlying well-defined, miliary tubercles, which presented a central area of caseation with circumferentially arranged epithelioid cells, few plasma and lymphoid cells, and an occasional giant cell. One year after the time of operation there were no evidences of recurrence of either the carcinoma or the tuberculosis. The patient had gained over 3 pounds in weight and was of roddy color and apparently in the best of health.

The author thinks that perhaps in this combination in the larynx, the tuberculosis provoked the tumor formation by its destruction of the tissue relationship. He adds that the tumor probably found in the diseased area of tuberculosis the proper conditions for development. In other words, that the tuberculosis formed a primary pathological soil upon which the tumor thus provoked continued to flourish while the tuberculosis in part yielded.

GEOFFREY E. BELL

Freund, E. L. The Causes of Carcinoma (Die Ursachen des Carcinoms). *T. Internat. Cong. Med. Lond.* 93, 3, Aug.

By Surg. Gynec. & Obst.

Freund asserts that in looking for the causes of carcinoma we must consider not the irritation that gives immediate rise to the growth but the abnormality in the organism which allows it to produce that effect in the one individual of the many who are affected upon by the same irritant. Moreover, in the majority of the persons affected by carcinoma there is no irritation that might cause it. Therefore there must be a predisposition. Freund and Camner have found that the blood of carcinoma patients acts very differently from the blood of normal individuals toward carcinoma cells. Normal blood destroys carcinoma cells; the blood of carcinomatous patients does not destroy them, and it prevents their destruction by normal blood.

The destructive power of normal blood on carcinoma cells is due to its content of a hitherto unknown fatty-acid combination that can be extracted with ether. This substance is lacking in carcinomatous blood. Moreover, carcinomatous

blood contains a pathological nucleoglobulin that is different chemically from normal nucleoglobulin in that it is richer in ether extract and carbohydrates, and, biologically in that it combines the normal fatty acids and makes them ineffective and protects the carcinoma cells from destruction by normal blood serum.

The important question as to whether these variations from normal are cause or result of carcinoma has still to be decided in part.

Stomach and other lesions that are frequently the location for carcinoma differ from normal tissue in that they lack the cell destroying fatty acids.

Röntgenization, which often results in cancer may neutralize this cell-destroying acid in the skin. The cell-destroying acid is lacking in places where carcinoma appears easily even before the appearance of the carcinoma. The lack of the acid therefore it be regarded as local prerequisite for cancer.

It has been determined that in contrast to normal nucleoglobulin, the pathological nucleoglobulin has the property of attracting carbohydrates from the serum and accordingly those substances that are found in special abundance in carcinomatous tissue. The nucleoglobulin seems to be the substance that provides the carcinoma with its special nutritive material. It has been determined how the pathological nucleoglobulin is formed from normal nucleoglobulin. The extracts of various organs from carcinomatous individuals can be added to normal nucleoglobulin solution without changing its action upon carcinoma. But if an extract from the contents of the small intestine of carcinomatous individual be added to normal nucleoglobulin solution it takes on the chemical and biological properties of carcinomatous nucleoglobulin and exercises protective action on the carcinoma cells against normal serum. This active substance of the intestinal contents has been isolated. It is a hitherto unknown unsaturated fatty-acid combination that is found only in the small intestine of carcinomatous individuals. We must therefore assume that the katabolism of food in the intestine of carcinomatous subject is pathological, giving rise to abnormal substances which cause abnormal protein compounds and thereby pathological state of nutrition of the cells. A. Goss.

Shimori, M. The Disappearance of Round-Celled Carcinoma in the Course of Erysipelas (Verschwinden eines Rundzellularcarcinoms im Verlauf eines Erysipels). *Nippon-Geka-Gakkaï-Zasshi* 9, 3, 44-45. By Zentgraf, J. d. Ges. Chir. u. Gynäcol.

A woman fifty-six years of age as operated upon for an ovarian cyst of the right side. A tumor the size of Hen's egg as found on the left side of the umbilicus. At the end of two months it was as large as child's fist. It was then stippled. After short time tumor large as fist. Its nodular surface reappeared, accompanied by severe pain. A hemorrhagic erysipelas bulsum set in

and within a week both the tumor and a metastasis in the inguinal glands disappeared. Although the patient recovered from the erysipelas, she died from exhaustion. OTAMA.

Citelli, R. A Very Useful Method in Treating Hysterical Aphonia (For use methods très utiles pour guérir l'aphonie hystérique). *T. Internal. Cong. Med. Lond.* 9, 3, Aug. B. Surg. Gynec. & Obst.

Citelli's method consists in making very strong, painful and sudden pressure when the patient is not expecting it on the large cornua of the thyroid or the thyroid cartilage. This should be done with the first three fingers of the right hand after having caught the tip of the patient's neck with the left. The physician then demands in a loud tone of voice that he speak and the patient frightened out of obedience loses momentary consciousness, but all measures in his normal voice.

Smith, G. M. Morphological Changes in Tissues with Changes in Environment. Replacement of Surface Epithelium in Grafted Tissues by Adjacent Epithelium. *J. Med. Research*, 915, 916, 4, 3. By Surg. Gynec. & Obst.

The author's purpose in this paper is to record number of experiments showing invasion of the surface epithelium of grafted tissue from hollow abdominal organs by neighboring cells, and to define some of the factors which underlie the process.

Operative technique. Whenever possible direct implantation of one organ into another was made by the suture method. Cases in which, for topographical reasons, direct implantation was found to be impossible the following method of transplantation in two stages was adopted for the transfer of tissues. By preliminary operation loop of intestine supplied with freely movable mesentery as sewed to the outer wall of the organ from which the tissue was to be removed for transplantation. At the end of week or ten days the second operation of tissue transfer was performed. The tissue of the organ to be transplanted was resected in such manner that its center lay at the point of its attachment to the intestinal loop, from which it then received its new blood supply. The tissue was next trimmed down to the desired size, usually from three to four centimeters in diameter and was ready for implantation. A second abdominal incision was made over the organ about to receive the graft, and the tissue to be transplanted, attached to the loop of intestine and properly protected by gauze, was drawn through the peritoneal cavity and brought into position suitable for the implantation. In this way tissues from the gall-bladder, urinary bladder or uterus could be readily transferred to any part of the peritoneal cavity for anastomosis with other hollow organs.

Smith's article is based on the results of fifty operative experiments, dogs, and the protocols of illustrative cases are given. From this experimental study the author draws the following conclusions:

Following utoplastic transplantation of part of one hollow abdominal organ into the wall of another the epithelial surface of the implanted organ may undergo change in structure. This change occurs when the epithelium of one organ differs in type from that of the other and is the result of the replacement of the epithelium of the graft by another that is derived from the organ that has received the implanted tissue.

Replacement of the epithelium of grafted tissue depends upon the change in environmental conditions. Changed physical and chemical conditions dependent upon the peculiar function of the organ which receives the graft affect unfavorably the life and growth of transplanted epithelium, while the same conditions favor the activity of the regional invading cells.

Whereas replacement of the epithelium of grafted tissue may follow implantation into another hollow organ, the epithelium of the same organ gives no evidence of replacement when their tissues grow in contact under equal conditions within the peritoneal cavity.

GEORGE E. BRUSH

Küttner H. The Importance of Free Transplantation in Modern Surgery (*Die freie Transplantation und ihre Bedeutung für die moderne Chirurgie*). Kiewskinski 013.45.3.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

This article is a short review of the theory and practice of free transplantation in modern surgery. In contrast to the possibilities in the lower animal orders, and in the embryonic state of the lower vertebrates, transplantation in man is limited within very narrow boundaries. Autotransplantation is the only form in which there is any certainty that the transplanted tissue will remain alive. Material for transplantation must be obtained from other human beings if the patient himself cannot furnish it. Transplantation from animals to man is now rejected. Küttner believes that in this we go little too far. He reports successful transplantation performed a year and half ago of fibula from a macacus cynomolgus to man. According to the roentgen picture, the monkey bone remained unchanged and there were no signs of absorption had taken place.

Brook gives the biological relationship of man and the higher apes as follows. (1) Man (2) orang-utan, (3) gibbon, (4) macacus rhesus and nemestrinus and (5) macacus cynomolgus. He thinks that biological man is about as far removed from the orang-utan as the latter is removed from the macacus rhesus. According to Friedenthal, man and the macacus are considerably nearer than rabbits and guinea pigs.

Aside from the particular form of hetero-transplantation mentioned, the only possible transplantation in man is auto- or homo-transplantation. The transplantation of entire organs by suturing the blood vessels is successful only on omentum transplantation and therefore has no practical value. The attempt to perform homoplastic transplantation in a

position of parabionts has not given satisfactory results. Transplantation of glandular organs such as the thyroid, without regard to the blood vessels, has shown that even in homoplastic transplantation from closely related individuals absorption eventually takes place in spite of beginning reparative processes and that only an autotransplantation can any increase in size of the transplanted organ be observed. Kuttner recommends therefore, instead of transplantation the administration of macerated normal human thyroid substance. According to Landolt's experiments, the suprarenal glands also persist only on transplantation.

The author considers briefly the possibilities of transplanting suprarenals, testes, ovaries, muscle and nerve tissue, entire extremities, epidermis, skin, mucous membrane, fat, fascia, tendons, serous membrane, blood vessels, bone, pericardium, cartilage and joints. He goes into more detail in considering the transplantation of joints from the cadaver. Before using material from the cadaver which should be as fresh as possible, a bacteriological examination should be made. Two cases have been shown that material can be used successfully twenty-seven and thirty-five hours after death. Therefore, there is sufficient time for a bacteriological examination if it be hurried. A description is given of two successful cases of transplantation of bone from the cadaver of chondrosarcoma, and further use of such transplantation is recommended.

HILLER.

Sesemski, W. W. The Clinical Character and the Treatment of Railway Injuries (*Der klinische Charakter und die Therapie der Eisenbahnverletzungen*). Russk. i. revsk. St. Petersburg. 9.3.25.24.

By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

The author reports five hundred and two injuries to railroad workers observed in the three hospitals of the Nikolai railroad from 1904 to 1906. Of these ninety-two cases were contusions with no mortality, one hundred and ten, wounds of soft tissues with a four per cent mortality, seventy simple fractures with mortality of five per cent, one hundred and ninety-seven, compound fractures with mortality of thirty-three per cent, and thirty-three miscellaneous injuries such as burns, luxations, contusions of the brain, etc. with mortality of thirty per cent. Sesemski characterizes railway injuries as follows.

They are generally multiple. All wounds are infected. 3. They are complicated by severe contusions. 4. There is severe hemorrhage. 5. The wound surfaces are large. 1. Injuries of this kind have characteristic course which the author divides into three periods. A period of shock lasting from a few hours to twenty-four hours. A period of recovery from the wound lasting from three to five days. 3. A period of recovery of the body from infection and intoxication, the duration of which depends largely on the size of the area injured. The treatment should be confined in the first period to combating the shock by giving large doses of

morphine and saline infusions of 5000 cc. and more. Operative procedures should be undertaken during the second period and should be as radical as possible. The following principles should be observed: Wounds of the soft parts should be given open treatment. In complicated fractures of the long bones, especially if the large joints are involved, high operation is to be preferred to conservative treatment. 3 All depressed fractures of the skull should be trephined. In the third period general tonic treatment is most important. Warm baths and alcoholic compresses are recommended.

RODRIGUEZ

SERA, VACCINES, AND FERMENTS

Sahli. Theses on T. bacilli Treatment. *Lancet*, Lond., 9. 2. 1913. 379. By Serg. Gyroc & Obé.

All of the various tuberculin are essentially identical. The active principle is the protein of the tubercle bacilli.

To avoid disastrous mistakes in therapeutic dosage it is advisable to provide the practitioner with tuberculin in suitably graduated dilutions.

The use of tuberculin for diagnostic purposes ought to be condemned. It is unreliable, both positively and negatively. Diagnostic injections are dangerous.

T. bacilli treatment is free from danger only if more obvious clinical reactions are avoided.

In advanced cases tuberculin treatment may sometimes produce certain symptomatic effects, but this effect does not compare with the utility of tuberculin in incipient cases.

The general practitioner and especially the family physician, should render himself proficient in tuberculin treatment.

The theory of the therapeutical action of tuberculin may now be regarded as well established. The significant factor is the increased production of that which Sahli has called inflammatory antibodies and the specific tuberculin anitoxin.

Tuberculin acts favorably only when the human organism is not already sufficiently under the influence of absorbed tuberculin.

It is not necessary to increase the doses of tuberculin to the furthest limit of tolerance. Many cases improve more with much smaller dose.

The large doses of tuberculin recommended recently for the purpose of reducing temperature have no curative value.

In tuberculin treatment we look for only stimulation and activation of the counteractions of the body at each injection.

All localized tuberculosis is suitable for tuberculin treatment provided that the patient's system is not already overloaded with tuberculin and he is, therefore, too seriously ill. As a rule, acute cases cannot be treated by tuberculin.

Tuberculin treatment by means of multiple cuti-reactions has been proved harmless and useful especially for incipient cases.

Treatment with well-diluted tuberculin is real and great advance in therapeutical progress.

DOVATO C. BILROTH

Von Behring, E. A New Diphtheria Antitoxin (Über die neuen Diphtherieschutzmittel). *Deutsche med. Wochenschr.*, 1913, xviii, 873.

By Zentralbl. f. d. ges. Med. I. Grosse

This article is a short review of a paper read by von Behring before the Congress of Internal Medicine in Wiesbaden on April 18, 1913. The remedy designated by him as $\Delta\Delta$ or $\Delta\Delta\Delta$ consists of mixture of diphtheria toxin and antitoxin, and represents in its composition the result of exacting experimental studies made by him on all available animals. Purposes of the vaccination are (1) To produce long continued immunity (2) To acquire antitoxigenous—i.e. native human antitoxin—from highly immunized subjects for passive immunization in place of the usual foreign antitoxin secured from the horse (3) To effect the more rapid removal of diphtheria bacilli in diphtheria carrier.

The injections are made subcutaneous and intramuscularly. An exact program is given for the test. After injection of the material, many antibodies are formed rapidly and there is a rise of fever. Most of these antibodies disappear from the blood just as rapidly as in the usual passive immunization with the serum. When the new remedy is used, however, a sufficient quantity of the newly formed immune bodies remains in the blood for longer periods as protection against the disease. In the horses that he immunized with diphtheria toxin von Behring is able to demonstrate the presence of antibodies in the blood five years after the last vaccination. In one case a child was immunized with an antitoxigenous serum gained from another child.

It was found that this antitoxigenous antitoxin as regards its disappearance from the blood does not differ materially from the uterine antitoxin acquired in the process of active immunization. The absolute harmlessness of the remedy has been proved by the trials made hitherto (eighty cases). Similar to Jenner's vaccine-therapy one or two injections of von Behring's new remedy produce long-continued protection against infection without injuring the health of those vaccinated. Besides being of eminently practical significance, von Behring's new discovery modifies very materially our views on the effect of toxin and antitoxin. According to his results, definite and irreversible neutralization of the toxin in vitro such as has hitherto been supposed to take place is impossible.

ECHE

Cruckshank, J. and Macleod, T. J. Alterations Produced in Complement-Containing Serum by Introduction of Lecithin. *J. Pathol. & Bact.*, 1913, xviii, No. 1. By Serg. Gyroc & Obé.

Cruckshank and Macleod report a highly technical research on the nature of complement action. Lecithin prepared from egg yolk was rapidly added to diluted serum and the globulin and albumin

fractions then separated by precipitation of the former with carbon dioxide gas. The lecithin fractions thus obtained as well as the whole serum were tested as to their hemolytic power in various combinations. The authors summarize their results as follows:

1. The introduction of lecithin into complement containing serum of the guinea-pig does not materially alter the complement dose in the case of rabbits serum the complementary activity is frequently increased.

2. The albumin fraction from serum treated with lecithin is as actively hemolytic for sensitized corpuscles as the original complement, while the globulin fraction retains the property of acting effectively with the ordinary albumin fraction.

3. The addition of lecithin to ordinary albumin fraction after separation does not enhance the complement activity of the fraction.

4. The lecithin must be mixed rapidly with the serum or with the water used for dilution in order to produce the effect described. Slow admixture does not yield an active lecithin-albumin fraction.

5. The albumin fraction of serum treated with lecithin is absorbed by complement-absorbing agents. It can also replace the complement in the Wassermann reaction.

6. The activity of the lecithin albumin fraction is dependent upon the presence of complement in the original serum.

7. Lecithins differ markedly with regard to their power to produce the alterations described.

The authors suggest that lecithin acts by rendering active a component of complement which is normally present in an inactive or latent state but they feel that this theory is not completely enough accounted for the increase of complement activity which results with certain rabbit sera merely by the addition of lecithin. C. G. SMITH

Auer and Van Slyke. A Contribution to the Relation Between Proteid Cleavage Products and Anaphylaxis. *J. Exp. Med.* 9, 3, 1916, 9.
By Surg., Gynec. & Obst.

On examination of the anaphylactic lung by means of Van Slyke's amino nitrogen method, the authors found no evidence of an increased amount of proteid cleavage products. They conclude that the investigation gives no support to the hypothesis that the true anaphylactic lung of the guinea pig is caused by the products of proteid cleavage. J. MRS F. CROUCHILL

BLOOD

O'Brien, R. A. Rat of Reproduction of Various Constituents of Blood of Immunized Horses After Large Bleeding. *J. Pathol. & Bacteriol.* 9, 3, 1916, 89.
By Surg., Gynec. & Obst.

Using the blood of two immunized horses from each of which had been taken ten litres, O'Brien followed the reproduction of various constituents for

thirty-four and forty-seven days respectively. He gives charts and tables showing his results, which he summarizes as follows:

1. The number of white cells varies widely and irregularly.

2. The hemolytic titre remains practically constant, the variation being at most only ten per cent from the initial figure.

3. The total amount of salts present does not decrease but may be increased ten per cent.

4. The content of all other blood constituents falls. The haemoglobin and number of red cells fall together to 50 or 60 per cent of the initial figure.

5. The curves of total proteins and diphtheria antitoxins show a close relation. G. G. SMITH

Heyter H. Contributions to Haemophilia (Kausche's Beitrage zur Haemophilie). *Mitt. a. d. Hamb. Staatshausk.* 9, 3, 1916, 9.
By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

Three cases of haemophilia observed for a period of ten years are reported. The first case was that of a hereditary bleeder in whom puberty had no effect upon the disease except to change the principal haemorrhage to renal haemorrhage. The latter stopped after rest in bed, diet poor in meat and the administration of gelatine calcium salts, serum and calcine. In the second case there was congenital anomaly but no hereditary element. Haemorrhage into the joints predominated, and was treated at first with iodoform-glycerin injections, as an incorrect diagnosis of tuberculous had been made. Ovarian tablets had no curative effects, but calcium chloral (1 per cent solution, three tablespoonfuls daily) had a good effect. A severe haemorrhage in the floor of the mouth necessitated a tracheotomy. The third case was a typical hereditary bleeder (over four generations). Effusions into the joints were prominent. Ovarian tablets were effective. Of theoretical interest, and perhaps of practical significance, is the recommendation of ovarian tablets and calcine. Grant made his deductions from the fact that women are practically exempt from haemophilia. Suspecting an internal secretory antagonistic hormone, he wished to secure this from organ extract and administer it to the male body. Calcine is a combination of calcium and gelatin the hemostyl action of the two components is well known. Besides calcine meat-free diet, milk, uncooked fruit and abstinence from alcohol recommended for bleeders. KAUTER.

BLOOD AND LYMPH VESSELS

Hesse E. A Palpatory Symptom of Valvular Insufficiency in Beginning and Invaluable Varies (Über ein palpatorisches Symptom der Klappeninsuffizienz bei beginnenden und nicht schon baren Varies). *Arch. u. Klin. Chir.* 19, 3, 1916, 50.
By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

In answering the question as to whether valvular insufficiency of the vena saphena magna is present

or not when Trendelenburg's symptom is not visible to the eye, Hesse argues that the symptom described by Hackenbruch as fluctuation shock (a wavelike motion in centripetal direction) is not to be regarded as physiologically normal, as it is also observed when the valves of the saphena are sufficient. On the other hand, the symptom given by Schwarz, wave-like movement in centripetal direction, is proof of a valvular insufficiency: palpation of the proximal segment of the saphena produces fluctuation in the lower parts of the saphena. Hackenbruch's symptom of stenoic summer ("Durchspritzschwüren") has also some significance. Hesse describes a new symptom, palpation of the regurgitative blood stream, which is of value in patients with so-called invisible or beginning varices—nutritional disturbances in the leg, ulcers, and difficulties in walking that cannot be accounted for.

The saphena is looked for on the inner side of the knee and its course is marked on the skin with iodine. With the patient in the horizontal position the leg is elevated and the blood massaged out of the saphena. Its trunk is then compressed in the fossa ovalis and the patient brought into an upright position. Two fingers of the free hand are placed on the iodine line, which corresponds to the invisible saphena. In cases of valvular incompetency there is regurgitation of blood, the slightest variations of which are detected by the palpating finger as "rushing eddies" ("surrende Wirbelströme"). Frequently they may be heard with the stethoscope. In these cases sapheno-femoral anastomosis gives splendid permanent results. DRAUDT.

Guggenheim, H. On Lymphogranulomatosis and Its Relation to Other Systematized Lesions of the Hemopoietic System (De la lymphogranulomatose et de ses rapports avec les autres lésions systématisées de l'appareil hématopoïétique). *Thèse de Doct. Par.* 913. By Journal de Chirurgie.

Guggenheim reports two cases of lymphogranulomatosis in which he made bacteriological and an histological examination of the glands and blood. Bacteriologically his results were negative, as were all tests for tuberculosis and syphilis. There was a slight leucocytosis with relative increase in polymorphonuclear cells.

The glands of the neck, axilla, and groin were examined microscopically. It was noted that the normal architecture of the gland was lost and had been replaced by fibrous meshwork in which were found lymphocytes, plasma-cells, endothelial cells, and eosinophils of lymphoid origin.

The first case was that of a woman, thirty years of age, who died from tracheo-bronchial adenopathy despite three operations and treatment with radium. The second was that of a woman of forty-two, whose benefit had come from intensive treatment.

Guggenheim next reviews the cases of non-specific, non-leukemic, non-tuberculous adenopathy reported during the last ten years and finds that the following terms are used somewhat indiscriminately by various

authors: Hodgkins disease, Trousseau's adenitis, aleukemic lymphoma, pseudoleukemia, lymphosarcoma, lymphogranulomatosis, etc.

He believes that the condition which he describes as lymphogranulomatosis deserves distinct place in classification which includes also lymphosarcoma, a metastasis-forming, tissue-involving and destroying tumor and the aleukemic lymphocytoma of Vaquer, or pseudoleukemia of Pinkas, a condition in which there is a hyperplasia of the lymphoid cells, and the denopathies of tuberculosis, syphilis, leprosy, etc. JES. CLYDE.

SURGICAL THERAPEUTICS

Beck, E. G. The Present Status of Blennorrhoeal Treatment of Suppurative Sinuses and Empyema. *J. Internat. Cong. Med.*, Lond. 1913. Aug. By Surg., Gynec. & Obst.

The author gives a résumé of his experience in treating 100 cases with the blennorrhoeal method in the past eight years, and summarizes the work of other surgeons in America and abroad. These reports represent a class of cases in which the use of blennorrhoeal paste was preceded by other treatment.

The author's own material consisted of surgical cases in which all other means of treatment, surgical, medical, etc., had been tried previously. Only six per cent were finally given up as hopeless. Many destructive cases are cited in which well-planned operation, following correct diagnosis by means of tracing the sinuses to the focus of the disease, was effective, or when operation was not feasible, the sinuses were closed by merely the injection of the blennorrhoeal paste. The blennorrhoeal-paste treatment fails only when the technique is not carried out properly, when the instruments used cannot meet the essential requirement of filling all of the sinuses at once, and when foreign bodies, such as rubber tubing, the end of probe, or sequestra, that should have been removed before the injection, are still present.

In the series of 100 cases treated by the author and his brothers there were no fatalities from blennorrhoeal poisoning due to the fact that the blennorrhoeal paste was applied properly. All fatalities from poisoning reported by others occurred during the first five years that the method was in use. No report of fatalities has been made in the last year although the blennorrhoeal paste treatment has been used even more extensively than before.

Beck employs a ten per cent paste in cases of cold because it prevents the formation of slimes and obtains good results.

ELECTROLOGY

Cannon, W. B. The Early Use of the Röntgen Ray in the Study of the Alimentary Canal. *J. Am. Phys. Res. Soc.*, Boston, 9, 1, Oct. By Surg., Gynec. & Obst.

After reviewing the earliest experiments to make manifest the contours of hollow organs, such as

arteries by injecting metallic salt. The author gave an account of the first observations of the movements of the oesophagus and stomach seen when food is mixed with subnitrate of bismuth and examined by means of the roentgen rays. Ca non maintains that the method now so widely used in examining the alimentary tract was developed gradually and that there is little warrant for ascribing its invention to any one person.

Holland, C. T. The Statistics of the X-Ray Examination for Stones in the Urinary Tract. *J. Internat. Cong. Med., Lond. 1913*. Vol. 9, 3. Aug. By Surg. Gen. & Obst.

The author analyzes in detail the X-ray findings of 1003 cases, and discusses the various conditions shown by X-rays and the percentage of cases which each was found. He considers also the question of differential diagnosis. In 11% of the cases other than those of stone occurred. The proportion of stones in every 3.43 males and in every 4 females. Calculous glands were noted in every 6 males and in every 6 females.

With regard to kidney and ureter stones, there is laid on the necessity of complete examination in all cases. A stone or stones were found in 4 out of 1003 patients examined. In 100% of the cases the stone was found on the right side. In 10% on the left. In 10% of the cases more than one stone occurred in the ureter or kidney of the same patient sometimes on opposite sides.

The X-ray findings of stones were very difficult, and it was sometimes difficult to determine whether the shadow found was really that of a stone or that of some other condition. Frequently small pure uric acid stones found to be present at the time of examination and passed later were not noted in the X-ray examination.

Pure uric acid stones in a kidney or ureter must be extremely rare as none were found in any of the cases in which the kidney was operated upon after a negative X-ray examination. The number of operations following negative X-ray examinations was 85 and in almost all of these cases some other cause was found for the symptom.

Attention was called to the fact that negative X-ray diagnosis does not necessarily mean that there are no stones in the bladder. For in 4 out of 104 cases in which bladder stones were found there was no X-ray shadow. In each of these cases the stone as found on analysis to consist of pure uric acid and moisture.

Lazarus-Barlow, W. S. The Effect of Radio-Active Substances and Radiations Upon Normal and Pathological Tissues. *J. Internat. Cong. Med. Lond. 1913*. Vol. 9, 3. Aug. By Surg. Gynec. & Obst.

There is much evidence that a destructive or injurious effect is exerted by radium and that this is bound up chiefly with the alpha rays. From the

laboratory point of view evidence concerning the beta and gamma rays is less convincing and in the case of the latter the opinion is gaining ground that the clinical effects that have undoubtedly been noted depend upon the secondary beta rays to which gamma rays give rise on meeting with an obstructing substance. Doses of radiation less than those producing definite destructive effects produce an inhibition. Thus, mouse cancer cells irradiated to a degree short of killing them grow more slowly on transplantation. It is evident that even smaller doses stimulate the growth of cells. This fact is of importance since the author has found small quantities of radium element in cancerous tissues and in gall stones associated with cancer of the gall-bladder, where normal tissues and gall-stones not associated with cancer of the gall-bladder showed either no radium traces or the edge of experimental error. No stream had shown in his laboratory that cells in mitosis are about seven times as vulnerable to radium as cells in the resting stage.

Safermann, Progress of Radium Therapy. *Internat. Cong. Med. 1913*. Vol. 9, 3. Aug. By Surg. Gen. & Obst.

In the light of present-day knowledge the indications for radium therapy are: (1) rheumatism (2) the joints and muscles, acute and chronic (3) arthritis, subacute chronic deformative and gonorrheal (4) neuralgia, intercostal neuralgia etc. (5) sciatica, including inflammation of the nerve ends (6) gout, uric acid diathesis (7) tabes dorsalis, diminution of lightning pains, (8) catarrh of the antrum and frontal sinus (9) arteriosclerosis (10) blood diseases, (11) constipation (12) diabetes and glycosuria and (13) nephritis.

The beneficial clinical results in this varied list of diseases are due to physiological actions the existence of which can be proven in living organisms. Some of the experimental results demonstrate the following facts: (1) radium emanation promotes the growth and multiplication of healthy cells and the decay of morbid cells (2) in man, the emanation produces diuresis (3) radio-active water stimulates the digestive tract and produces catharsis (4) the uric acid and urea content of the urine is markedly increased (5) vaso-dilation is produced (6) the viscosity of the blood is diminished (7) the blood pressure is lowered, probably because of (5) and (6) (8) metabolism is increased especially that of hydrocarbons (9) digestion both in the stomach and in the intestines is rendered more active (10) there is a nerve-soothing effect which may aid to check insomnia (11) sexual activity is increased; (12) the effect on the blood is leucocytosis followed by leucopenia with increase in the number of the red corpuscles.

The cause for these physiological effects is not so easy to determine. There is reason to believe that they are due to an increase in the activity of body ferments. At least it is easy to prove experimentally that ferment action is greatly increased by the in-

fluence of radium, and on a working basis it is assumed that such is the action within the human body.

Radium increases the activity of ferments as would catalytic agent either starting chemical changes or hastening their action if already in progress. The result is increased oxidation of the products of metabolism. This oxidation in diabetes takes the place of oxidation by the normal ferments the function of which is said to be disturbed in diabetes, although it is true that the symptoms of neuritis have been aided by radium treatment more often than the glycosuria.

The results in nephritis, arterial changes, etc., also are explained as being the result of an increase in the ferment action caused by the radium. One of the facts upon which this conclusion is based is that in artificial nephritis, etc., the ferments are destroyed by the poisons that produce the disease.

HOMER E. PORTER

Large. Röntgen therapy of Measured Masah
Doses. *J. Am. Med. Ass.* 1914, 550.
B. Surg. Gynec. & Obst.

Large discusses the principles underlying the X-ray treatment of malignant growths and points out the importance of measured doses by which the X-ray treatment is placed upon a rational biological basis. He states that the treatment of teratoma myomas, climacteric hemorrhage and uterine cancer by the X-ray became successful only by the massive dose technique as adopted and used as made of an aluminum filter of 3 mm. and compression band to emacinate and desensitize the skin.

By the massive dose technique it is possible to give four times the erythema dose in one exposure and in one series extending over several days, and to subject the same area of skin to from six to ten times the erythema dose without apparent injury. Also by varying the area of the skin exposed, tremendous quantities of the Röntgen rays may be delivered to the deep tissues. The possibility of administering measured massive doses is also shown by successful roentgenotherapy.

III. SURGERY

Abbe, R. Radium in Malignant Disease. *Internat. Cong. Med. Lond.* 1914, Aug.
B. Surg. Gynec. & Obst.

The author stated that while universal testimony agrees that the vast majority of superficial and some internal cancers can be cured by radium there are still some failures and they need to be explained. This explanation he has found in an experimental study of the growth of plants that had been exposed to radium at different distances and for different periods. He showed beautiful photographs of plant growth to prove that the close application of radium destroys life, but when the rays are within the range of half an inch to an inch and half they excite and stimulate growth. Beyond that radius the so-called

gamma rays prevent growth. It is these that are the only ones that are of value in reducing malignant tumors.

It has been proved by the French that heavy lead plate will shut out the harmful rays and permit the useful gamma rays to go through slowly and to destroy malignant tumors.

However by the new plan of distance filtration, without lead plate, the same, or better results are obtained in a quarter of the time or less. The radium is held at a distance of one and half inches and in this manner most of the undesirable rays are excluded.

The author showed also many illustrations of the wonders worked by radium—numerous cases of tumors on the vocal cords, which destroyed the singing and speaking voice and obstructed breathing, and which were cured by one strong application for thirty minutes the tumors disappeared in eight days.

A remarkable illustration was that of a gentleman on whose very bald head had grown many malignant tumors for eight months. One application of radium by the new method of distance filtration caused their complete disappearance in twelve days.

Of interest also were illustrations of malignant destruction of bone tumors cured with restoration of the bone by burying radium in them. The earliest case remains cured nine years after the treatment.

Abbe spoke enthusiastically of the great work of the British Radium Institute and of recent German work, the results of which have all been corroborated by his own experience.

Fussey, W. A. What Can be Done of Cancer with Röntgen Rays? *J. Am. Med. Ass.* 1914, 551.
B. Surg. Gynec. & Obst.

The author regrets the partial disrepute into which the X-ray method of treating cancer has fallen since the advent of more general and consequently haphazard use of the rays. The present scepticism is no doubt largely result of errors and misadventures made in cases treated with mediocre skill. In the hands of trained men the results obtained in a day from this method demand an even greater recognition than those obtained in the early days of great promise.

Epitheliomas, irrespective of type may be symptomatically cured by Röntgen rays if the subcutaneous tissues are not deeply involved and there are no metastases. Occasionally growths with deep extension, even those involving bone and regional lymph nodes, respond in remarkable manner.

As a rule those cases are not chosen for roentgen-ray treatment in which there is no involvement of regional lymph glands. Such cases with proper treatment give results which compare favorably with those of any other method. When good results can be obtained, they are usually permanent.

Following surgical removal the X-rays play an important rôle in preventing the recurrence of localized cancers near the surface. This is particu-

lary true of breast cancers in which dissemination has not taken place. The roentgen treatment is without avail in cancers of the deeper viscera or in cases where metastasis has occurred.

HOLLIS E. POTTER

Holding, A. F. The Roentgen Technique of Deep Therapy. *The Roentgen Ray in Medicine*, 3, Oct. By Surgeon General and Obst.

Holding stated that (1) A review of the medical literature up to 1900 shows that there had been reported up to that time 334 cases of malignant conditions treated by roentgen methods. The results varied more according to the roentgen technique than according to the morphology of the tumor. (2) A review of the medical literature shows that of 667 cases of myomatous uteri treated by roentgen methods in which the end result is known, 376 cases were cured and 30% were improved. Of 27 cases in which the end result is known, 206 were reported cured and 20% were improved. (3) A brief history of the use of roentgen rays in the treatment of deep-seated diseases. (4) Therapy on carcinomas of the breast, uterus, cervix, and vulva. (5) The use of roentgen rays in the treatment of deep-seated diseases in conjunction with the deep x-ray therapy.

A sufficient number of good results have been reported to compel the consideration of deep roentgen therapy by the leaders of the medical profession.

Measured massive doses of x-rays and the use of the most penetrating rays with the most successful results. Unmeasured fractional doses three times a week. Roentgen treatment is recommended.

A résumé of the essentials of the roentgen technique for the treatment of myomatous carcinomas of the uterus was given as follows: (1) the use of hard x-rays—Waller 6-8 Wehnelt (2) the use of a filter of aluminum 3 mm. thick (3) the use of a break in the primary current so that 100 to 200 impulses per minute may be delivered (4) the division of the skin over the site of the disease into small areas, each square centimeter, and the treating of each area separately and only once in series (5) the administration to each area of skin of 5% or one and one-half times the erythema dose (6) the crossing of the rays so that the rays directed at different angles through different areas of skin converge at the site of the disease (7) the directing of the rays toward the site of the disease from every angle from the front, back, sides, above and below and (8) the administration of the treatment in series. A series consists of 500 to 550 x-rays administered once or twice a day. This is followed by an interval of about 8 or 10 days. At the end of which time another series is administered. In myoma cases five to six series are commonly used.

In gynecological cases, patients were treated for one or two days. Intervals of eighteen to twenty-four days, covering a period of sixty to one hundred days. Amenorrhea was obtained within one month after treatment was begun.

The utilization of the Guss technique will be more readily accepted for inoperable malignant conditions than for gynecological conditions. As to whether it should be used in the latter field must be determined by the gynecologist. The duration of the treatment seems to be needlessly tedious. They can be greatly shortened by increasing the size of the areas of the skin that are treated at one time. The publication of brilliant results with such enormous dosages given by Guss was liable to dangerously stimulate the widespread treatment of disease by men who do not measure their dosages of x-rays. The slogan of success in roentgen therapy is the same as that of a specialty technique.

MILITARY AND NAVAL SURGERY

Wolf W. Periostitis from Over Exertion and Spontaneous Fractures in the Army (Über Anstrengungsperiostitis und Spontanfrakturen in der Armee). *Deutsche militärärztliche Zeitschrift*, 9, 3, 1914, 548. By Zentralbl. f. d. ges. Chir. u. L. Grenzgeb.

Periostitis from over-exertion occurs only in the lower extremities, on the inner surface of the tibia and the femur. Soldiers complaining of pains in the femur were often accused of simulating because a periostitis could not be diagnosed on account of the thickness of the soft parts of the thigh. To-day the roentgen examination explains such cases.

The author reports the case of a soldier who complained repeatedly after long marches of pains in both thighs. Examination yielded no objective findings. The roentgen examination, however, revealed periosteal stratifications on the inner side of the femur.

Chronic inflammation of the periosteum causes defective nutrition in the bones which results in abnormal brittleness. Periostitis from over-exertion is therefore an important factor in the frequency of spontaneous fractures of the lower extremities in the army. The author reports in detail also a case in which suspected fractures from periostitis was ascertained by the x-ray.

Schorr

Stierlin and Vlacher. Experiences with the Modified Bandage in the Servia Turkish War (Erfahrungen mit dem Modifizierten Bandage im serbisch-türkischen Krieg). *Centralblatt für Chirurgie*, 9, 3, 1914, 633.

By Zentralbl. f. d. ges. Chir. u. L. Grenzgeb.

Stierlin and Vlacher were active in the reserve hospital at Belgrade and in a field hospital at M. Nasir at the battle of M. Nasir. At these places they used aseptic visiform gauze directly on the wounds, sealed it with mastix solution and put an ordinary piece of bandage over it. Infection was prevented by this method, even during transportation of the wounded. The severely lacerated and crushed wounds were dressed with ordinary gauze. Much time and material were saved by employing the mastix bandage. Their solution consisted of 4 gm. mastix, 100 gm. benzol and 40 drops of linseed oil.

GRÖR SCHÖRER.

GYNECOLOGY

REFERENCES

Kelly H. A. and Neel, J. C. Carcinoma of the
(Left) of the Uterus. *With John H. plus Hesp*
L. xiv 1 By Mary Lyons & Olen

This article deals with the ultimate results as far as they could be obtained of 11 cases of carcinoma of the cervix, based on the gynecological clinic of the John Hopkin's Hospital from 1900 to 1937 cases all. A comparison of the usual history treatment finds a superior primary mortality rate, and leads to a conclusion.

The authors draw the following conclusions:

- 1) The external bilateral removal of all or nine cervical lymphatic nodes is justified but there are any hope of complete tumor excision there is some special indication (surgical); 2) therefore this operation, (properly performed) has a positive effect in extending the high primary mortality rate of the first stage of primary carcinoma of the thyroid; therapeutic measure thus far suggested.

In expiratory upst: 70% often necessary to
det. cause better or not and is operable

3. Obesity is not necessarily correlated with the operation and the side horizontal personality decrease the depth of the field of operation

4. The preliminary characterisation of the ur tract is suitable and essential if it prevents and does not occasion more the probability of trouble and secondary infection of the urinary tract.

5. Decreased joint mobility is sometimes due to secondary inflammatory reaction and may be improved by tetra-cycline or the primary growth

6. Preliminary termination and transfection of the primary growth are ad possible in all cases.

7. Elms glandular function is not justified, as the increased peritoneal effusions does not compensate for the rise in the percentage of the primary mortality.

8. By improving the technique of the operation the primary mortality has been decreased from 8.5 per cent for the first seven years to 5 per cent for the last 6 years. Further simplification and perfection of the details of this operation may yet reduce the primary mortality to nearly that of the ordinary laparotomy and make it more generally valuable.

Aside from the discovery of the biological factor of carcinoma of the cervix of the uterus and the successful elimination, the greatest hope lies in the early recognition of the primary growth. This can be accomplished only by more thorough training of the family physician as to the symptoms and signs of cancer and by systematic education of the laity.

GEORGE E. BARNARD

Klein, G. Res Its Obtained with X Ray Treatment of Carcinoma of the Uterus, Ovaries, and M. mamma. I. Folge der Röntgenstrahlung bei (sekundäre des Uterus, der Ovarien und der Mamma). Deutsche Gesellschaft für Gynäk. u. G. M.

From 1904 to 1907 the author treated six cases of carcinoma of the uterus with the X-rays. The principal results are that the tumors are prevented from spreading and the pains and decomposition decreased during the treatment. The metastatic tissue surrounding the tumor became firmer and acted as a wall through which the tumor did not spread. With improved operations and technique the author advised Drs. Hirsch and Neuberger of the 31 such polycystic treatment with X-rays also patient suffering from inoperable cervix involvement with patients whom the carcinoma of the uterus had been extirpated, total of 1 case. One patient had Wertheim operation performed in January 1908 and has had two further recurrences.

Each are excised and analyzed. As result of prolonged X-ray treatment she is now probably free of any recurrence. This is the only case of this kind known at the author. There is no proof that the cure effected is permanent, but I say so the result is excellent. Those cases which have been operated upon previously are especially adapted for the X-ray treatment, as all carcinomatous material is destroyed much more easily than large inoperable tumor. Probably the effect is due to the destruction of the carcinoma germinia. As the result

lymphocytes is rendered capable of taking care of the tumor rest that remain. Of particular interest was one of an adenocarcinoma of the breast. The author amputated the breast in 1907 and removed the recurring nodules in 1909, 1910, and 1911. The scar was healed as treated with X-ray and the last nodules, extirpated in 1910, also did no carcinomatous tissue. In 1913 five and three quarters years after the amputation the patient is still free from recurrences. The results are good also in operable and inoperable ovarian adenomas and carcinomas. In all cases the growth was checked, abscesses formed much less frequently and the tumors became more firm.

Since September 9 the author has treated twenty-1 cases of genital carcinoma successfully

with mesothorium. The activity of 88 mg. radium bromide proved to be sufficient when the treatment was repeated frequently and this amount minimized the danger of injuring neighboring parts. After prolonged exposure the surface cancer cells become degenerated, but deep lying nodules were not influenced and metastasis was not prevented.

Success depends upon the degree of the malignancy of the cancer, the general constitution of the patient and his tendency to become cured. Frequently cessation of the growth was produced by mesothorium, but later more rapid extension occurred. Abdominal exposure demands great care and experience. Tumors lying near the abdominal wall are difficult to influence. Vaginal treatment is much more simple but in this case the great danger lies in producing injury to neighboring organs, the bladder, the rectum, the bowel and the uterine artery. All operable cases upon which some reason operation cannot be performed are adapted to this treatment as well. Inoperable cases or recurrences. Radical operations followed by prophylactic exposure to mesothorium is especially to be advised. Mesothorium combined with the deep penetrating X-rays and intravenous iron injections, is excellent.

M. RANK

Gumakoff L. The Question of Cystic Degeneration of Uterine Myomas. *Zur Frage des cystischen Degeneration des Uterusmyome*. *Zeitschr. f. Geburtsh. Gynäk.* 9 3, 1911, 75.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The patient was a woman 39 years of age. She had had one spontaneous delivery and one abortion. For over five years the menses were regular yet much more profuse than before and she complained of general weakness. For several months hemorrhage persisted without ceasing the abdomen became enlarged and the general weakness increased. Examination showed a tumor arising from the uterus or the ovary. At operation elastic tumor the size of child's head was found. It was multilobular and eccentrically developed and was situated in the mesometrium on the right uterine wall. The patient recovered.

Examination of the tumor showed it to be myoma with cystic degeneration. Microscopically the tumor tissue was different from the smooth musculature of the uterus. It consisted of cells with round or oval nuclei and the stroma was poorly developed. Several places still showed isolated strands of smooth muscle fibers and connective tissue bundles.

The cause of the degeneration was poor nutrition, such as occurs in thin-pedicle, subserous, or intraligamentous myomas. The symptoms of such degeneration are not constant. According to Winter severe hemorrhage occurs in 74 per cent of the cases. The growth is not rapid. Hemorrhage, enlargement of the abdomen, general weakness, and the danger of sarcomatous degeneration are indications for operation.

GRASAUZ

Langes Experiences with the X-Ray in the Treatment of Myomas and Metropathies. (*Erfahrungen mit der Röntgenbehandlung bei Myomen und Metropathien*). *Deutsche med. Wochenschr.* 9 3, 1911, 740.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Twenty-four cases of terine myomas and fifty cases of hemorrhagic metropathies were treated with the X-ray. The technique at first was that of Albert-Schönberg. Later 3 to 4 mm. aluminum filters were employed, and three fields in the lower abdomen and in the sacral region were exposed. In severe cases the perineal and vaginal fields were radiated, lead glass tube being employed for the vaginal application.

In severe injuries were observed, but skin pigmentation was frequent. Intoxication phenomena were extremely mild. There was diarrhoea and symptoms of ovarian insufficiency were not marked. Of the fifteen cases of myomas carefully observed, eight resulted in amenorrhoea, and in oligomenorrhoea, 7 of these fourteen showing definite retrogression of the tumor. The fifteenth case resulted in failure due to imperfect technique. Of the thirty-nine cases of metropathies, thirty-four resulted in amenorrhoea, nine in oligomenorrhoea, and one remained unchanged, and one was aggravated so that vaginal total hysterectomy had to be performed. All of the seven failures must be attributed to the insufficiently developed technique that was employed at first. With the present technique no failures have occurred. Improvement began after two or three series of exposures.

RUN

Plücker, A. Mesothorium in the Treatment of Hemorrhagic Metropathies and Myomas. (*Die Mesothoriumbehandlung bei hämorrhagischen Metropathien und Myomen*). *Deutsche med. Wochenschr.* 9 3, 1911, 64.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The mesothorium treatment of hemorrhagic metropathies and of hemorrhages due to myomas is a valuable addition to our therapy. Similar to the action of the X-rays, the hard rays of mesothorium produce a gradual atrophy and sclerosis of the ovarian stroma and therefore, indirectly, an oligomenorrhoea or an amenorrhoea. A direct influence upon the uterine wall or upon the tumor has not been demonstrated and is not essential.

The method of applying the treatment is of advantage to the physician as well as to the patient. The mesothorium is placed into the vagina in little capsules and exerts its influence upon the ovaries from there. The author has not employed the intra-uterine application, as with that method the rays must first penetrate the uterine wall and consequently are weakened. Furthermore, he does not consider a direct effect upon the uterus and tumor necessary.

The treatment is indicated in those cases in which no improvement follows curettement and cauterization. Malignant degeneration of course must be

excluded by a careful histological examination. Patients approaching the menopause (30 years of age and upwards) are the best subjects since the reproductive functions are injured. The symptoms incident to ovarian atrophy are about the same as those that occur after operative castration and are mild. The author believes that this new method will supplant operative procedures. II

II Lohmeyer F W Uterine Sclerosis, Arterio-sclerosis Uteri and Its Relation to Uterine Haemorrhage (Die Gebärmutter- u. Nierensclerose uteri, und deren Zusammenhang mit den Uterusblutungen) Arch f G 84 9 3 23
By Zentralbl f d ges Gynäk. Geburtsh. d. Gynaec.

The author discusses the difference between infectious metritis and sclerosis uteri, both of which may cause profuse metrorrhagia and are characterized by abnormal enlargement of the body of the uterus. In infectious metritis, however, the inflammatory process is seen chiefly in the uterine tissue without participation of the blood vessels, while in sclerosis, the perivascular processes are involved. The history of the cases, hereditary signs of chronic rheumatism et al. and past infections are met with. In uterine sclerosis special attention must be paid to the condition of the blood vessels, which show arteriosclerotic changes in typical form and the changes and diminution in the quantity of the elastic structure of both the uterus and the blood vessels.

The dependence of uterine haemorrhage upon arteriosclerosis uteri has not been generally recognized, but the majority of the investigators are of the opinion that the changes in the vessels play the chief rôle. Differences of opinion still exist as to the condition of the elastic tissue in arteriosclerosis. All investigators, however, agree that it increases in amount. A recent description of three cases observed by the author is given. In these the uterus was ectoposed on account of uncontrollable haemorrhages. In all three cases the typical picture of the so-called sclerosis uteri or its vessels were found and also necrosis of the vessel walls. The author considers the haemorrhage a result of the changes in the vessels due to the disappearance of the elastic elements in their walls. III

Ziegenpeck Chronic Parametritis and Displacements (Parametrit chronisch und deren Veränderungen) Deutsche Grenzsch f G 84 11 16
9 3 14 7
By Zentralbl f d ges Gynäk. Geburtsh. d. Gynaec.

Ziegenpeck expresses himself as opposed to the view recently expressed that there is no such thing as parametritis chronica and that such conditions are really due to chronic peritonitis. He points to the parametritis acuta purpuraria of Virchow which frequently develops into the chronic form. He mentions also the work of König, Rothberg, Freund, and his own work, and refers further to the older points in the differential diagnosis between para-

metritis chronica and peritonitis mentioned by Schmalz. To the latter he adds three new points. (1) an apparent downward bulging of the vaginal vault on the affected side (2) a movability of the fixed uterus in the direction of the diameter of the pelvis in parametritis, whereas in chronic peritonitis the movability is more in the direction of segments of a circle and (3) the fact that the parametric induration can be seen with the aid of a grooved speculum.

In regard to treatment, ventrofixation according to the method of Broene is too uncertain and too for midable a procedure. Finkler proposed lengthening the fold of Douglas by implanting into it peritoneum from the omentum. To cure an induration of connective tissue he does the same thing as is done when a piece of skin is implanted for the correction of Dupuytren's contraction of the palmar aponeurosis. Massage and stretching is etiologically the correct method and cure results in short time.

Rosenkova-Szwolitch, A. A. Mud and Mineral Baths during Menstruation (Schlamm- und Mineralbäder während der Menstruation) Zentr f Gynäk. Geburtsh. 9 3 1914 73
By Zentralbl f d ges Gynäk. Geburtsh. d. Gynaec.

The author reports the results of the employment of warm and hot baths in cases during menstruation. Eighty were cases of dysmenorrhoea. Her conclusions are as follows:

1. Hot baths, warm or hot, regulate the bleeding. The duration of the period is not influenced very much and is shortened rather than prolonged. The pains either cease entirely or are much decreased.

2. The general condition is not influenced unfavorably.

According to Strassburger the favorable influence exerted by the baths is due to the fact that they irritate the skin and in this way produce a contraction of the peripheral blood vessels. The contraction soon disappears and is followed by a dilatation of the blood vessels of the skin and contraction of the vessels of the internal organs. Conclusion.

Sweeney T T Leukoplakia Uteri. Am J Obst. N Y 9 3 1914 213
By Surg. Gynec. & Obst.

The author reports in detail a rare case of leukoplakia of the cervix, giving the history and the pathology and gross and microscopical drawings. He also reviews the subject with reference to the eight cases that have been previously reported in the literature. He draws attention to the tendency of leukoplakia to cancerous change and in cases of leukoplakia of the cervix, advises early and complete excision of the affected area. N. S. S. H. H. H.

Rieck, A. The Indications for and Technique of Defundatio Uteri (Zur Begründung und Technik der Defundatio uteri) Frauenzehr, 9 3, 1914, 212
By Zentralbl f d ges Gynäk. Geburtsh. d. Gynaec.

Oblique resection of the body of the uterus is an operation for the relief of profuse menstrual periods

and is called defundatio uteri. The author emphasizes his priority in devising the operation. The advantages of this procedure over that of total extirpation are (1) the much shorter time necessary to perform it, 30 to 45 minutes, and (2) the much simpler technique. The size of the uterus, adhesions, and even pyosalpinx, need not contraindicate it. The extraperitoneal method is to be preferred. By it peritoneal irritation and the other disturbances that follow total extirpation are avoided. The stump into which but few ligatures are placed causes no peritoneal irritation, but suppurative or fetid inflammation of the extraperitoneal wound does occur. The principal advantage lies in the fact that menstruation is maintained whereas in total extirpation amenorrhoea ensues. Uninterrupted recovery is the rule. SCHNEIDER

ADRENAL AND PERIUTERINE CONDITIONS

Helmann, F. The Internal Secretion of the Ovaries and Its Relation to the Lymphocytes (Innere Sekretorische Funktion der Ovarien und ihre Beziehungen zu den Lymphocyten). *Zentralbl. f. Geburtsh. Gynäk.*, 9, 3, 111, 113.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

The thymus has the power to increase, and the ovaries, the power to decrease the number of lymphocytes. An increased internal secretion of the ovaries leads to a decrease in the number of lymphocytes, and a diminished secretion, to an increase in the lymphocytes. Helmann determined that in the intermenstruum the normal number of small lymphocytes is from 8 to 10 per cent and that during menstruation the number is considerably increased. An increased number of lymphocytes is found also in processes which cause hypoplasia, or disturbed function, of the ovaries, such as amenorrhoea and the climacterium. However after the menopause has existed for some time, decrease is noted. Cases of inflammatory adnexal disease which are accompanied by fever can not be used in these investigations. In afebrile adnexal disease the number of lymphocytes decreases, and in various tumors it increases. The number can be markedly lowered by the use of ovarian extract. BOYD

Kloss, H. A Case of Sarcoma Developing Within Teratoma of the Ovary with Metastases in the Great Omentum (Ein Fall eines ovariären Teratoms des Ovariums mit intrauterinem Sarkom mit carcinomatöser Metastase im grossen Netz). *Zentralbl. f. Geburtsh. Gynäk.*, 9, 3, 111, 113.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

Most of the sarcomas involving ovarian teratomas have originated within the ovary and invaded the teratoma secondarily. Sarcomas developing within a teratoma are far rarer occurrences.

The author reports a case belonging to the latter class. The tumor was the size of a child's head and consisted of a unilocular cyst inside of which at four different places little tumor nodules were developing. The metastatic tumor found in the omen-

tum was the size of a man's head, firm and solid. Microscopically the walls of the cyst showed the picture of genuine teratoma, and the isolated nodules, the picture of a spindle-celled sarcoma. The metastatic tumor showed the same structure as the primary tumors. ELLER

Ulsko-Strogonoff. Carcinomatous Degeneration of Ovarian Cysts (Zur Frage der carcinomatösen Degeneration vom Ovarialcysten). *Russk. Med. St. Petersburg*, 9, 3, 111, 113.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

During the last four years two hundred and two ovarian tumors have been operated upon in the Gynecological-Obstetrical Institute of St. Petersburg. Ten were solid tumors and one hundred and ninety-two were cystic tumors. Of the latter eighty-four were simple cysts, thirty-one, cystic embryomas, fifty-three, proliferating cysts, and twenty-two carcinomatosely degenerated cysts. Thirty-three of the proliferating cysts were glandular and twenty papillary. In the opinion of the author the carcinomatosely degenerated cysts originated from the proliferating cysts.

From his examinations of these cysts the author draws the following conclusions: (1) Proliferating cystic tumors are transitional forms between benign tumors and tumors undergoing carcinomatous degeneration. (2) The epithelial hyperplasia which characterizes these forms shows this tendency toward malignant degeneration. (3) The relation of the proliferating cystic tumors to the malignant cystic tumors proves the origin of the latter. (4) In the cysts showing carcinomatous degeneration, proofs are evident that they have developed from pre-existing proliferating cysts. B. UNN

Balsch. The Removal of Blood from the Peritoneal Cavity Following Rupture of the Tube (Zur Behandlung des bei Tubenruptur in die Bauchhöhle ergossenen Blutes). *Monatsh. f. Geburtsh. u. Gynäk.*, 9, 3, 111, 113.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

Balsch recommends the complete removal of all blood from the peritoneal cavity in cases of hemorrhage following a rupture of the tube. It should be allowed to remain only in those cases in which the patient condition demands a delayed operation. He considers the presence of blood in the peritoneal cavity as an added factor in the development of peritonitis, since blood is an excellent culture medium. It aggravates the subjective symptoms of long convalescence and increases the danger of post-operative adhesions. ZIMMER

Hennert, W. Affections of the Adrenal Gland in Pregnancy (Die Adrenalkrankungen im Schwangerschafts- und Wochenbett). *Archiv f. Gynäk. u. Geburtsh.*, 9, 3, 111, 113.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

This article is based upon observations made in the gynecological clinic in Breslau. As causes of

the inflammations of the adnexa are found the gonococcus, streptococcus, taphylococcus, diplococcus lanceolatus, bacterium coli bacillus typhosus the tubercle bacillus, actinomyces, and Friedlander's bacillus. Fifty per cent of the cases were due to the gonococcus and only four and one half per cent to the tubercle bacillus. Haines believes that when a vaginal inflammation is accompanied by appendicitis the latter is secondary to, and not the cause of the former. According to the pathological anatomy he classifies adnexal inflammation into three large groups: (1) Those that exudate formation; (2) the lumen of the tube and the formation of a total plug; (3) Those with peritoneal inflammation and the formation of numerous adhesions. The latter form is often only list as a type of the first.

In discussing the diagnosis the author recommends that if the pouch of Douglas but this should be done only when there is no suspicion of the presence of a hernia. The preparation of gonococcal vaccine he predicts will be of great value in the differential diagnosis. The local reaction following the injection of old tuberculin also of great diagnostic value. If a tubal and adnexal current moment for diagnostic purposes as non-bacterial infection of the adnexa may react identically with such procedure.

Haines believes that karyine is a safe inflammatory conditions and not interfere with operative interference and that the later bromine inflammation condition. It should supply the most conservative live need the operation be and the better and more permanent the result. After nine to twelve months karyine as a tamponade will become sterile. If the conditions demand an interference during the acute stage the abdominal route is to be preferred as it permits more conservative operation. The thorax inhibits particular about the V-shaped excision of the tube ends of the tube and a risk of the same in case the uterus can be saved. Other cases, and when there is much abscess the methods of Haines, Kelle and Beutner with previous ligation of the uterus, greatly facilitate the resection of the adnexa from this point for drainage purposes, which is indicated only in tuberculous, the author employs the tampon through the lower angle of the abdominal wall in cases in which the presence of infectious pus is suspected, or in which oozing takes place. In cases in which the tubal extremity is closed only by the formation of adhesions around the tube he advises the salpingo-omatosplastic operation to permit the possibility of later pregnancy.

In discussing tubal pregnancy the author advises the employment of puncture of the pouch of Douglas for the differential diagnosis of hematocele and perforative appendicitis. In cases of internal hemorrhage he advises immediate laparotomy even in collapse, with careful removal of all blood. Even if there is no internal hemorrhage, he

recommends operative treatment in all cases of unruptured tubal pregnancy in ruptured pregnancy and in hematocele in which there is recent hemorrhage and in suppurative hematocele. The resection of the other tube to prevent recurrence of ectopic pregnancy is not deemed justifiable on the contrary he advises the salpingo-omatosplastic procedure on this. He also, that later term pregnancy may be possible.

LANE.

EXTERNAL GENITALIA

Bondy O. Vaginal Bacteria and Endogenous Infection (Subclinical and endogenous infection). *Zeitschrift für Geburtshilfe u. Gynäk.* 3. Heft, 603.
B. Zenker and J. G. Graw. Geburtshilfe u. Gynäk.

The author attacks principally the views of Bondy and Sigwart regard to endogenous infection. A strict separation of the germs of the external genitalia from those of the vagina is impossible. It quotes the statement that saprophytes are not to be found in women who have not been subjected to vaginal examination. It does not recognize the tenets of Bondy and Sigwart concerning the pathogenity of the vaginal streptococci on account of their defective animal virulence. The question of self-sterilization of the vagina should be entirely dropped, for as soon as the endogenous infection commences during labor at the time of the rupture of the amnion and the power of self-sterilization of the vagina ceases on account of the changed composition of the vaginal secretion.

DEMEYER.

Jack, W. R. Vacci Therapy in the Treatment of Gonococcal Proctitis. *Glasgow Medical Journal*.
By Surg. Grace & Chas.

In the cases treated by the author the results obtained are as follows. A cure was effected in three cases in the first two after two and half months of treatment, and in the third, after over three months of treatment. In another three cases the condition remained unaltered. One case after six months of treatment. Another after five months, and in the third after more than six months.

The results in this short series are disappointing although there was marked lessening of the discharge and freedom from the irritation which is often found when acrids are not used. The very favorable reports which have been given by some authorities have not been corroborated by other investigators. In the Vanderbilt clinic two hundred and sixty cases were treated by the irrigation method and eight cases by vaccine. The percentage of recoveries was sixty with the former method and ninety with the latter. The time required for cure was six months with the irrigation method, and seven months with the vaccine method. These statistics are very encouraging, but the author hesitates to accept them, since other authorities give so much

encouraging reports. The most that the author claims for the vaccine treatment in cases of vulvovaginitis in children is that it causes a marked abatement of the symptoms and lessening of the discharge. J H SKILL.

Hofmann O. The Iodin Treatment of Gonorrhoea in the Female. *Intern. M. J.* 9 3, 733. By Surg. Gynec. & Obst.

In the acute cases a smear is made from Skene glands and the urethra, and several from the vagina and the vulvo-vaginal glands. When the cause of the infection is found the labia are separated and the parts exposed swabbed with a solution of 3.5 per cent iodine crystals in 95 per cent alcohol. Next, few drops of the solution are injected into Skene glands and the vulvo-vaginal glands by means of a hypodermic syringe with blunt needle. The vagina is then swabbed with the patient in the Sims position and with the aid of Sims's speculum. A strip of gauze is next introduced.

In protracted cases in which the cervix and uterus are involved, the cervix is first painted and then douching of the iodine solution is injected under low pressure into the uterine cavity. This is repeated four or five times every three days.

In all cases copious hot douches are given followed by 5000 permanganate solution. The bowels are kept open by cathartics. Tea, coffee and alcohol are forbidden. EDGAR C.

MISCELLANEOUS

Callen, T. S. Address in Gynecology. *Canad. M. Ass. J.* 9 3, 63. By Surg. Gynec. & Obst.

The author presented this paper to urge the medical profession to bring before the laity the necessity of as early operation in cancer. That the campaign which has already been started has yielded results is shown by the communications the author has received from different surgeons. He states that it is the duty of the medical profession to impress upon the laity the fact that cancer is a local process which can be cured if taken early enough. He believes that the same change of attitude can be brought about in regard to cancer as obtains now in regard to appendicitis. Twenty years ago it was difficult to persuade a person to be operated for appendicitis. To-day when the diagnosis has been made the first question is "What hospital shall I go to?"

The author next discusses the diagnosis of cancer of the skin, lip, tongue, stomach, intestine, rectum, breast, and uterus, touching upon them lightly. He quotes two cases in detail of myomatosis of the uterus with adenomyoma of the cervix and rectum, associated with rectal abscesses and denoma of the left broad ligament intimately connected with the rectum.

He urges the practitioner to become well informed in regard to the pathological and anatomical structure of the part affected, so that it will be possible for him to know the paths along which the cancer

usually travels. It would be folly to operate a case of cancer of the rectum if the liver were involved.

Callen further urges that hospitals become more business-like in their methods, also that cases be followed so that the result of the cancer operations can be definitely known. He suggests that a special clerk be assigned to follow up cases of this kind and report the results of the operations.

EDWARD L. CORRIELL.

Mahler G. E. Röntgenotherapy in Gynecology. *T. Am. Rad. Ray Soc.*, Boston, 9 3, Oct. By Surg. Gynec. & Obst.

Röntgenotherapy in gynecology is now recognized as a valuable factor in the treatment of uterine fibroids, benign haemorrhage of metropathic origin, and a number of other affections to a lesser extent.

The author's experience in the treatment of fibroids limited to 7 cases, extended over a period of ten years. The greater number of cases occurred during the past seven years. The results were most satisfactory in that a menopause was produced, the haemorrhages were controlled, and the tumor gradually disappeared. In some instances the tumor continued to disappear long after the treatment had been stopped.

The treatments were given in series, each series involving full doses administered through four different areas of the skin. When circumstances demand it these four areas can be treated either in one day or in four different days. The treatment is then not repeated until three weeks have elapsed. A cure usually requires from four to six such series of treatments.

The following conclusions were drawn:

Röntgenotherapy is the method of choice of haemorrhage in patients approaching the menopause in whom carcinoma can be eliminated.

It is not the method of choice in patients under forty years of age.

3. It can be recommended in all cases of any age in which operation is contra-indicated.

4. For the differential diagnosis, in order to determine the indications for this treatment, special skill in gynecology is required, and for the proper administration of the rays, special training in roentgen technique is necessary. It is possible for a gynecologist to become a roentgenologist; it is also possible for a roentgenologist to become a gynecologist, but it is very unlikely that either will master both. Therefore the author believes that each case should be examined by a gynecologist and treated by a roentgenologist.

Helmsta, F. The Cystoscopic Diagnosis of Ureteral Calculi and the Removal of It by the Vaginal Route. (Über die cystoskopische Diagnose eines Uretersteins und seine Entfernung auf vaginale Wege.) *Ztschr. f. Geburtsh. u. Gynäk.* 9 3, 441.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

In 47-year-old female patient, who was taken ill with right-sided colic and chills, a calculus in the

lower portion of the ureter was diagnosed by means of cystoscopic examination. The stone was removed by the vaginal route by exposing the ureter in the left parametrium and isolating it. Uninterrupted recovery resulted. **Bovva.**

Sq ler J B. The Modern Diagnosis and Treatment of Gynecological and Obstetrical Patients with Syphilis. *N Y M J* 9 2, xviii 357. By Surg. Gynec & Obst.

The author dwells upon the biological diagnosis of syphilis in gynecological and obstetrical patients by the complement fixation and huetin skin reactions and provocative salvarsan administration. The consideration of greatest importance is the experience and dependability of the biologist who conducts the tests. The value of clinical evidence as well as the worth of diagnostic treatment should not be lost sight of when such evidence conflicts with laboratory tests. Treatment should be initiated as soon as diagnosis has been made. Squier uses neosalvarsan almost entirely.

Neosalvarsan has the following advantages in comparison with salvarsan: (1) It is more simple to prepare. (2) It minimizes the number of preparation ingredients, thereby reducing the possibility of faulty technique. (3) It does not require as large volume of fluid for injection.

Conditions necessitating caution in the administration of neosalvarsan are chronic alcoholism, myocarditis, arteriosclerosis, and lesions of the cerebrospinal system. The neosalvarsan medication is supplemented with a intensive mercurial treatment continued in earlier cases from six months to a year and in later cases for a somewhat longer period.

The author sums up his conclusions as follows: (1) Treatment should be begun the moment diagnosis is certain. (2) To insure success it must be as intensive as regards the administration of both arsenic and mercury as the history of the case and the patient's physical condition will warrant. (3) Under no circumstances should the physician attempt to treat disease of such widespread effect and sinister influence without having given much study to the present conception of the management of the disease. **Hrs. Schmitt.**

Stewart, W. Bacteriological Control of Asepsis During Gynecological Laparotomies (Die bakteriologische Kontrolle der Asepsis bei gynäkologischen Laparotomien). *Arch f G nst* 9 3, xxix, 381.

By Zentralbl. f d ges Gynaek. Geburtsh. d. Grenzgeb.

The bacteriological control was extended to Bumm's clinic so that not only a bouillon culture was used in the three-sponge test, but the number of germs present was approximately determined by cultures on agar plates. This control was carried out in 14 major abdominal operations. In 85 per cent of the aseptic operations the bacterial content was small. Streptococci were found only twice and

bacteria in all other cases. Numerous germs were always obtained from septic operations, the staphylococcus albus and aureus and the bacillus coli predominating. Streptococci were found twenty-three times in seventy-one cases. This difference was plainly marked in the healing of the wound. Not a single disturbance in the course of healing was observed in spite of the presence of streptococci. A positive prognosis as to wound repair cannot be made from the bacteriological findings at the time of operation. The investigations, however, justify the conclusion that the healthy peritoneum accommodates itself to a relatively large number of weak virulent germs. Connective tissue wounds must be carefully dried from blood, all bleeding and oozing must be arrested, and all wounds must be carefully covered with healthy peritoneum, the visceral coat being used eventually for this purpose. **Lowmyer.**

J. Nett, H. The Surgical Treatment of Pelvic Thrombosis of Septic Origin. *Surg. Gynec. & Obst.* 9 2, xiv, 147. By Surg. Gynec. & Obst.

The treatment of puerperal pyemia is of such importance that any procedure that offers any hope of an improved mortality rate is worthy of consideration. The author, having seen in the post mortem room apparently operable cases of pelvic thrombosis the result of pyemia, decided to operate on similar cases in future. In the article he records three cases of this kind, all of which the initial history was characterized by recurrent rigors, high temperature and rapid pulse.

In the first case on the fifteenth day swelling was found in the right broad ligament. It opened the abdomen and removed a large thrombosed and suppurating ovarian vein round which was a considerable amount of cellulitis. The patient rapidly improved.

In the second case he did not operate until the thirty-ninth day as owing to absence from the hospital, he had not seen the patient before. In this case he removed a tense cord-like structure, which turned out to be a thrombosed ovarian artery and he also removed the ovarian vein, which contained small thrombus in its lower part. The patient had a few rigors after the operation, but they disappeared, and her temperature fell to normal and remained so.

In the third case very similar condition that met with in the first was found at operation, except that it had gone much further. Septic peritonitis was on the point of starting the whole length of the ovarian vein contained pus, and there were two abscesses beside the vein. The patient improved for a few days after the operation, then gradually lapsed, until on the thirteenth day after confinement she was as bad as before the operation. A hysterectomy was performed. The patient improved temporarily but rapidly became again seriously ill, and died on the thirty-fifth day with symptoms of septic involvement of the lungs.

The author describes also two cases of pyrexia without obvious thrombosis. In the first case he performed a hysterectomy but without benefiting the patient. In the second case he tied the ovarian veins, and recovery began at once and continued.

In conclusion, the author refers to the interesting fact that in all of his cases the thrombosis was on the right side, and primarily in the ovarian vein alone. He considers that such cases always call for operation, and that it should be performed as early as possible to anticipate conditions such as were found in the third case. He considers that the diagnosis is the important point, and that, as a rule, it can be made from the symptoms of the patient taken in connection with a thickening or swelling in the broad ligaments or along the course of the veins not accompanied by much pain.

Lampé Basedow Disease and the Genital Organs (Basenwache Krankheit und Genitale). *Deutsche Gesellschaft für Gynäk. u. Heilk.* 9:3 M. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

It is evident from the literature and the reports of Frankl and Graff that there are clinical facts which indicate relations between Basedow disease and the genital organs. Next to the disturbances in menstruation, it is the hypoplastic changes of the genitalia in exophthalmic goiter that are of chief interest to the investigator and that are interpreted as indicating decrease in the functioning of the ovaries. Particularly in permanent ovarian hypoplasia we do not know whether there is really hypofunction, an atrophy, or even dysfunction of the ovary for the anatomical character of an organ does not permit of a conclusion as to its function. For this reason also the belief in the existence of a relation between Basedow disease and the ovaries based merely on the clinical facts above mentioned would for long time have remained mere theory if we had not acquired a method by which

we may obtain an insight into these complicated relations and determine an existing ovarian dysfunction positively. This method is Abderhalden's protective ferment reaction, and the theory upon which it is based is as follows: If in Basedow disease, the activity of the ovary is qualitatively disturbed, i.e. if the ovary gives off an abnormal substance into the blood stream, the organism as a whole should react to this product of dysfunction, which is foreign to the blood, by producing protective ferments against it. These ferments ought to be detected by the Abderhalden reaction.

Proceeding from this theory the blood of patients suffering from exophthalmic goiter was examined for protective ferments. The serum of the patients was brought into contact with thyroid gland, thyroid, ovary testicle kidney adrenals, and liver

By the use of the pinhydrin test it was determined which of these organs were split. The thyroid gland was split in all, and the ovaries and thymus in most of the twenty five cases of genuine exophthalmic goiter so far examined. The tests with the other organs were always negative. The results of these tests are to be explained as follows: (1) The first abnormal step in exophthalmic goiter is a dysfunction of the thyroid gland. (2) Also in most cases the functioning of the thymus gland and the ovaries is abnormal. In most cases of Basedow disease it is possible not only to demonstrate the functional changes, but also to determine the nature of the abnormal function. The question now arises as to whether the dysfunction of the ovaries

in exophthalmic goiter is primary or secondary. It seems evident that it is a secondary disturbance. The product of a dysfunctioning thyroid gland has ovariotrophic significance, which means that it invades the ovaries and influences the activity so that dysfunction results. Finally we must refer to the fact that disturbance of the ovary is indicated by one of the symptoms of exophthalmic goiter. This is the exaggerated growth in stature of patients suffering from exophthalmia which was first mentioned and studied by Holmgren, and which depends on an abnormally long persistence of the epiphyses. The well known investigations of Sellheim concerning the influence of castrated growth of the bones permit us to regard the disturbances of the germinal glands as the cause of the delayed ossification of the epiphyses in the long bones of patients suffering from exophthalmic goiter.

Gegenbach Precocious Menstruation. *J. Am. Med. Ass.* 9:3 Feb. 53. By Surg., Gynec. & Obst.

The report of a case of precocious menstruation is given with a discussion of its probable cause. The patient, a child two years of age, bottle fed, had the first menstrual flow lasting three days, when six months old. Menstruation recurred at intervals of one to three months, most frequently at intervals of six weeks. For a few days before the periods a slight leucorrhoea was noticed. The child was cross and acted as if in pain. The peculiar menstrual odor was very marked. It was necessary for the child to wear napkins during a period of about a week. Its weight was 41.5 lbs. and its height, 39 inches. It had 8 teeth. The circumference of the head was 19 inches. The measurement of the chest below the breasts was 15 inches and across the breasts, 23 inches. The abdomen to the navel was 12 inches and the pelvis 23 inches. The breasts were noticeably prominent, and there was a growth of hair under the arms and about the external genitalia.

HENRY SCHULTZ

lower portion of the ureter was diagnosed by cystoscopic examination. The moved by the vaginal route by exposure in the left parametrium and incision ruptured recovery resulted.

Sq ler J. B. The Modern Diagnosis of Gynecological and Obstetrics with Syphilis. N. F. M. 35 H. Surg.

The author deals upon the diagnosis of syphilis in gynecological and obstetrics by the implement first and last. The consideration of great importance and dependability of the conducts the test. The value of all the other diagnostic tests not be lost sight of. He says that in laboratory test of the blood should soon as diagnosis has been made neonatal cases (latent) are compared with the late stage. It prepares the mind to the ingredients thereby the fully technique is the volume of fluid for the

Cardiovascular system. The author discusses the diagnosis of the heart and lungs. The author discusses the diagnosis of the heart and lungs. The author discusses the diagnosis of the heart and lungs.

The author discusses the diagnosis of the heart and lungs. The author discusses the diagnosis of the heart and lungs. The author discusses the diagnosis of the heart and lungs.

Sq ler J. B. The Modern Diagnosis of Gynecological and Obstetrics with Syphilis. N. F. M. 35 H. Surg.

The bacteriological control of the clinical use of the sponge is used in the three sponge for the purpose of germ present as appropriate cultures on agar plates. This is a major bacteriological operation of the aseptic operations in the small Streptococcus re fowl.

interruption of pregnancy. The kidney was gradually closed and the patient went on to spontaneous labor.

While it is obvious that surgical interference is not demanded in all cases, it should be carried out promptly in many.

Engelhardt E. Ectopic Pregnancy in the Ovarian Ligament: Contribution to the Anatomical Diagnosis of Advanced Cases (Zur anatomischen Diagnose vorgeschrittener Fälle). Monarch J. Geburtsh. u. Gynäk. 39 2, April, 1902. By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Gynäk.

The author gives a detailed description of ectopic pregnancy in the ovarian ligament. He found that the tube was obstructed and the fetus was dead. He substantiated his diagnosis by macroscopical and macroscopical examinations. He concludes that the ectopic lodgment of the ovum was due to a pelvic peritonitis caused possibly by appendicitis.

J. J. J.

Baldwin, J. F. Cesarean Section with Hysterectomy in Cases of Positive Infection. N. F. M. 39 2, April, 1902. H. Surg. G. and Obst.

Baldwin cites a case of primipara 29 years of age at full term. She had had pains for 1 day. When the bag of waters ruptured the pains had entirely ceased and forceps delivery was impossible because the blades would not lock. The patient was exhausted, pulse 30, temperature 104° F. The child was large, presented at the brow and was alive. A Cesarean section was advised in the later part of the child and by hysterectomy in the interest of the mother. By proper procedure it was hoped to prevent infection of the peritoneal cavity. A low incision was made and the uterus brought entirely out of the abdomen. The abdominal cavity was protected by towels all around. The child was delivered rapidly. In the interior of the uterus a large necrotic patch was found. The terine cavity was washed with tincture of iodine such ran down through the cervix into the vagina. A supravaginal panhysterectomy was then completed, except that one ovary was saved. The appendix was removed. The incision was closed without drainage. The temperature fell immediately and the patient made an uneventful recovery.

L. J. J.

Petersen, R. The Indications for Abdominal Cesarean Section. Surg. G. and Obst. 9 3, April, 1902. By Surg. Gynec. & Obst.

The author discusses some of the more important and common indications for abdominal Cesarean section. He advocates conservatism in obstetrics and denounces the practice of solving all obstetrical problems by abdominal Cesarean section. He is of the opinion that with the modern aseptic technique Cesarean section should, in measure, take the place of the high-forceps operation.

First, under the heading, "obstructions to labor" the author considers contracted pelvis. He calls

attention to the uncertainty of pelvic measurements and advocates, in moderate contraction of the pelvis, that the patient be given rest of labor. Patients who are undoubtedly infected due to repeated vaginal examinations and unsuccessful vaginal manipulation, should not have the abdominal Cesarean section performed. In such cases craniotomy is preferable. Labor is sometimes obstructed by uterine fibromyomata which may be cervical or intraligamentous in location. The majority of women having fibromyomata do not carry the child to full term because changes occur in the decidua. The Porro Cesarean section is indicated here fibroids obstruct the canal. On rare occasions are located that reduction of the size of the uterus prior to their removal necessary form indication for Cesarean section.

Stenosis of the cervix and vagina due to scar tissue originating at previous cesarean section has been discussed. This condition makes spontaneous delivery impossible and artificial dilatation of the cervix is dangerous compared to Cesarean section. It causes retro- and retro-fixation of the uterus. Sometimes give rise to distention and thrombosis of the posterior uterine wall during pregnancy. In this case Cesarean section is preferable to attempt delivery from below. Attention in normal cases the large birth child of the mother.

Where severe concealed placental hemorrhage is taking place the mother's condition is alarming and growing worse and the cervix is rigid as it requires considerable time to relax it enough to empty the uterus better result will be obtained by a laparotomy.

In discussing eclampsia the author states that when the pelvis is contracted and the child is too large or no chance of sepsis, abdominal Cesarean section has given good results. In 245 cases of eclampsia treated by this method, the maternal mortality was 4 percent. In 37 cases the fetal mortality was only 5.5 percent.

Baldwin J. F. Two Unusual Cases of Ectopic Pregnancy; On Triplet Birth. *J. Am. Med. Ass.* 9: 131, 30. By Surg. Gen. & Obst.

The first case was that of a patient thirty-seven years of age who had been married nineteen and half years. She had three children the youngest as sixteen years old. Her labors except for one miscarriage thirteen years before the sixth week for which there was no assignable cause were normal. Menstruation was normal and regular. The last period occurred two weeks before. An operation was performed for a proclivita which had been very annoying for the last two years. During the laparotomy bilateral tubal pregnancy was discovered. On closer examination two fetuses were found in the left tube and one in the right. The embryos were of the same size and about as large as peas. The pathologist reported that all three were embryos of the same age. The second case was an ordinary tubal pregnancy. HENRY SCHULTZ.

LABOR AND ITS COMPLICATIONS

Gallant A. E. Prolonged Precipitate Parturition Due to Disengagement of the Diaphragm. *Head Med. Rev.* 9: 3, LXIV, 33. By Surg. Gen. & Obst.

The author reports five cases of normal-sized pelvis in which there was dystocia due to a slight malposition of the child's head. With these, corrected labor ended rapidly. In two cases forceps were applied and as the result of a too-heavy pull, the birth was precipitated and caused a severe tear of the perineum. It is possible by simple maneuvers to shorten the labor with less danger to both the mother and the child.

The maneuvers recommended are as follows: (1) External pressure on the buttocks at the fundus which exaggerates the flexion of the trunk upon itself and of the hip upon the sternum. (2) External pressure on the occiput just above the symphysis, with the palm of the hand pressing the occiput into the birth canal. (3) Internal pressure on the forehead with the fingers in the cervix, tilting the forehead up and during each pain. (4) The introduction of a single blade of the forceps to the occiput and gentle traction during a pain to facilitate flexion and engagement. This is best accomplished by a solid blade of forceps, as the head will move more readily and the bulk of the forceps will help to fill up the roomy inlet and aid the head to engage more firmly and more surely. (5) Guidance traction with high forceps—with loosely fitting blades. (6) As a guide and to prevent recession, care being taken not to drag too vigorously or suddenly or pay the penalty of a too precipitate delivery and tearing of the perineum. (7) The mother which could have been voided. (8) The judicious combination of two or more of these manipulations as the case may demand. LOW AND L. CORRELL.

Bogdanowitch M. Delivery in Total Paralysis of the Body (Entbindung bei vollständiger Lähmung des Körpers). *Zentralbl. f. Gynäk.* 9: 3, XXXVII, 800.

By Zentralbl. f. d. Gynäk. u. Geburtsh. u. d. Grenzgeb.

A chiopara, thirty-seven years of age, had been suffering since the third month of pregnancy with a rapidly developing myelitis that began in the arms and spread to the trunk and legs. During the last weeks she suffered from urinary incontinence. On account of her hopeless condition Cesarean section was contemplated when labor contractions suddenly began. They were noticed by the attendant, but the patient experienced no pain. Within three hours the child was expelled by the breech, living but immature (43 cm. 2450 gm.). The placenta followed in fifteen minutes. There were no abdominal contractions as the abdominal muscles were paralyzed. The patient died three days later. A autopsy revealed fibro-endothelioma of the spinal dura mater in the region of the atlas, with compression and softening of the spinal medulla.

This case is an excellent proof of the fact that the

motor functions of the uterus are independent of the spinal cord and are stimulated from peripheral nerve centers located in the uterus. **TOWCZAK.**

PUERPERIUM AND ITS COMPLICATIONS

Werner A Case of Puerperal Tetanus with Recovery (Über einen gebürtigen Fall von Tetanus puerperalis). *Mündener J. Geburtsh. u. Gynäk.* 9, 3, xxxv, 67.

B. Zinzalbi d. des Gynäk. Geburtsh. d. Grenzgeb.

On November 5, 1913, the patient was delivered with forceps. A perineal tear was not sutured. Ten days later the patient complained of difficulty in walking and slight trismus. The next day decided trismus set in, followed by rigidity of the neck and severe difficulty in swallowing, allowing no units of food to be taken (Hofstad). On the following day the muscles of the face, arms, and lower limbs were affected. Repeated convulsions occurred. The temperature rose to 40°C. Four more injections of 0.005 unit in units are given but without effect the next few days. In addition, vaginal douches of solution of powdered dried scabies are employed. At the end of four weeks the patient was discharged cured. **ZINZALBI.**

Peterson R. Emptying of the Uterus as a Method of Treatment of Puerperal Eclampsia. *Am. J. Obst. N. Y.* 9, 3, lxxxv, 30.

By Surg. Gynec. & Obst.

In this article Peterson has made a statistical study of the results obtained in a large number of cases of eclampsia collected from the literature and draw the following conclusions:

1. Since the cause of eclampsia is still unknown, the treatment of eclampsia must be empirical.

2. Only through the analysis of large numbers of cases can the value of any particular treatment be correctly estimated.

3. In a large series of cases of eclampsia prompt delivery gave a maternal mortality of 3.9 per cent as compared with a maternal mortality of 8.9 per cent where the delivery was long delayed.

4. When the uterus is emptied immediately or very soon after the first convulsion the maternal mortality is still lower.

5. While before 1900 in a large group of cases the maternal mortality was 5 per cent in favor of conservative treatment and spontaneous labor between 1900 and 1910 on account of better and more prompt obstetrical surgery the figures were reversed and showed that the maternal mortality was 4 per cent lower after the radical treatment than after the conservative treatment of the complication.

6. Therefore the treatment of antepartum eclampsia should consist of emptying the uterus as quickly as possible after the first convulsion.

7. The operative procedure that will empty the uterus most quickly and with minimum trauma and shock to the eclamptic mother and child is the one to be selected. **N. SMO. HENRY.**

Zincke, E. G. The Medical versus the Surgical Treatment of Puerperal Eclampsia. *N. Y. J. Med.* 9, 3, xlii, 42. By Surg. Gynec. & Obst.

The author gives a very interesting review of the statistics of the medical and the surgical treatment of eclampsia. He claims that the maternal mortality from the surgical treatment is higher than that following the medical treatment. During the past ten years he has treated thirty cases of eclampsia, with a maternal mortality of 3.3 per cent, and a fetal mortality of 50 per cent. Two of the mothers were moribund when seen by him and third died of shock and hemorrhage following an accouchement force performed by the doctor in charge of the case. The fourth died soon after the eleventh convulsion and a comparatively easy vaginal hysterectomy performed without an anesthetic.

Zincke advocates the following treatment: If the patient has, or has had, convulsive seizures, 5 drops (5 m. or ccm) of Noxoid tincture of veratrum viride should be given hypodermatically and repeated every hour until the pulse is reduced to 60 per minute or less. If within an hour the pulse falls from 90 to 60 per minute only from 10 to 15 drops should be injected in the succeeding dose. More than two or three injections are rarely necessary to bring the pulse down to 60. A copious enema of soap water serves to wash out the large intestine. The bladder should be emptied with a catheter and the urine measured and examined. As soon as the patient is able to swallow a saline cathartic should be administered. If this is ineffective, stronger cathartics may be given. Immediately afterward, the patient should be given a hot bath or hot pack, rubbed dry and placed in a warm bed. The bath or pack should not be given oftener than twice in one day.

The only food should be milk or broth or both. Water or Flaccid solution may be freely administered. The latter may be given per rectum or in urgent cases, intravenously. Chloral, per os or rectum should be given if the patient is very restless. The thorax has discarded chloroform and morphia. Ether or gas-ether is the anesthetic of choice. **C. H. Davis.**

Polek, J. On the Management of the Interior of the Uterus in Post Abortal and Post Partal Infection. *J. Internat. Cong. Med., Lond.* 9, 3, Aug. By Surg. Gynec. & Obst.

From a study of nearly 2000 cases the author draws the following conclusions: (1) The high morbidity in puerperal infection is due to meddling interference with the endometrium by surgical methods. (2) Curettage of the placental site is potent cause of thrombophlebitis of the pelvic veins. (3) The endometrium should never be curetted in streptococcal infection, whatever the stage of the pregnancy. (4) When the inside of the uterus is not disturbed by exploration, the infection is generally confined within the uterus and peritonitic and parametric complications are seldom noted.

The author analyzes one hundred and four cases treated in his wards by conservative neglect of the interior of the uterus. In no instance was the intra-uterine content disturbed. Only three deaths occurred, a mortality of less than three per cent.

Eight-four cases followed full-term delivery. Twenty were of the post-abortal type.

These women were placed in the Fowler position for postural drainage. Ergot and pituitrin were administered freely to secure uterine contraction and retraction. An ice bag was placed over the uterus and the physical resistance was sustained by forced feeding, strychnine, vaccines, and open-air treatment. Retained material was not removed.

Intra-uterine cultures were taken from eighty-nine patients. Fifteen had a closed cervix and in these no cultures were obtained. A hemolytic streptococcus was recovered from the uterus thirty-four times, a non-hemolytic, fifteen times combined growths, fifteen times staphylococci alone and in combination, fifteen times. Ten cultures were sterile.

Blood cultures were made in ninety-eight cases. In forty-six streptococci of the longus or brevis types were recovered. Only two were hemolytic.

In one of the three fatal cases no organism was developed from the blood. In another the streptococcus brevis was recovered and in the third the bacteremia was due to the staphylococcus aureus.

These facts are particularly impressive when it is remembered that a hemolytic streptococcus was recovered in thirty-four uterine cultures and it would seem to confirm the author's conclusions regarding non-interference in puerperal infections.

Stande C. Peroneus Parvitas Post Partum (Über Peroneuslähmung postpartum). *Mensche'sche Geburtsh. u. Gynäk.*, 19, 3, xxviii, 6.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Case 1: The patient was a primipara, twenty-two years old, with a cephalic presentation. After a prolonged labor she was delivered by forceps on account of an increase in her temperature and an acceleration in the sounds of the fetal heart-beat. The child weighed 4360 gms. A few hours after delivery cramp-like pains in the right leg set in, and the following day similar pains occurred in the left leg. There were noted also points that were painful to pressure. On the third day there was urinary incontinence and a diphtheritic membrane appeared in the vagina and vulva accompanied by fever. Next, vesico-vaginal fistula developed; the size of a dollar. Six weeks after delivery the patient was allowed to get up. A weakness of the right leg was observed, due to peroneal paresis. An operation for the repair of the vesico-vaginal fistula was performed later and was complicated by the close proximity of the ureteral openings to the edges of the fistula. An improvement in the paresis was obtained after one year's treatment. The patient was able to walk fairly well with crutches and later

without them after the application of an elastic support for the foot. This paresis is explained by the prolonged pressure of the head in its slow passage through the pelvis. The fistula also was due to the same cause. In the literature four other cases of vesico-vaginal fistula complicated by peroneal paresis are recorded.

Case 2: The patient was forty-two years old, a viii-paræ, with cephalic presentation and normal pelvis. During the second stage of labor she complained of pain on the outer side of the legs and feet. After cessation of the fetal heart tones, the anterior leg was brought down and extraction was rendered by delivery of the arms. Soon after delivery painful parasthesias set in on the outer side of the legs and feet. Paresis gradually increased until the motor and sensory disturbance was complete in the peroneal region of the left leg and partial in the right. After a year complete recovery had taken place.

The author gives a detailed account of the anatomical relations and the mechanism of nerve injury. An isolated peroneal paresis is rare; the lesions usually occurring in the lumbal plexus, and the tibial as well as the brachioradialis are involved. Paralysis of the glutei has rarely been observed, but is probably often overlooked. The latter produces a waddling gait and makes stair-climbing more difficult. The pains on the posterior surface of the thigh and outer surface of the leg are pathognomonic of the traumatic origin of the paresis coming on during labor and usually preceding the paresthesias. Occasionally cramp-like contractions are observed in the limb during labor. Most of the labors require forceps delivery. Paresis is recognized only after a time, usually when the patient rises on the tenth day. It is frequently bilateral, but not equal in both sides. In the crural region, neuralgias and disturbances of sensation occur never any paresis. The contracted pelvis plays an important rôle; the generally contracted type being more unfavorable than the flat rachitic. Injury to the nerves occurs much more often in cephalic presentations than in breech.

Stande lays considerable stress on the possibility of causing injury while forcibly hinging down a foot with the breech in the pelvis. Particular care is necessary in this maneuver. The prognosis of puerperal peroneal paresis is not always favorable, dependent as it is upon the duration and force of the pressure exerted upon the nerve and upon the extent of the paresis. Duration is usually prolonged. Any pains or parasthesias occurring in the peroneal region during labor must be considered dangerous signals.

ESSENBAUGH.

MISCELLANEOUS

Wolz B. Fötale Hormone (Über fötale Hormone). II. Bildungsschicht. *Rostock*, 9, 3.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The chemical influence of the germinal cells during conception the developmental importance of

the internal secretion of the testes, the influence of the mother upon the child and of the child upon the mother during pregnancy and the relation of the fetal hormones to tumor pathology are discussed in detail. Chemotropism of the germinal cells and chemical stimulation in their development is probably an hormone function. Just as a pregnancy reaction of the maternal organism is caused by the fetal structure, so a pregnancy reaction of the fetal organs occurs through the maternal structures.

It is not certain whether or not the germinal glands and the adrenals functionate during intra-uterine life. The thyroid gland and the hypophysis are active only under certain abnormal conditions. We have only a few positive proofs that the development of the testes is influenced by its endocrinal glands, but it may be dependant upon the hormones of the maternal organism, the uterus, ovaries, thyroid gland etc. A number of the pregnancy changes in the mother such as the changes in the mammary glands, the commencement of labor, the formation of protective ferments, the increase in the amount of antitrypsin in the blood, and intoxications are the result of the action of the fetal hormones. The pre-adolescence of women with tumors is due probably to the action of the hormones of blastomeres with embryonal tissue upon the genital organs. It is known that pregnancy influences the growth of blastomeres. GRAEFENBERG.

Rougay A. F. The Use of Fetal Serum to Cause the Onset of Labor. *M. S. J. Calcutta*, p. 13, 1909. By Surg. Genl. & Obst.

After discussing the work of Heide the author takes up his own. Rougay followed the technique suggested by Heide in making the fetal serum. He used also practically the same general plan for his experiments. The fetal serum was tried on nineteen patients. In six cases, one or more injections produced labor pains which led to the expulsion of the child. All of these patients were at least ten to eighteen days before term. Two cases of foetitis responded well to the serum shortly after the injection. The urine of one patient for whom the serum was used to bring on labor because of threatened eclampsia showed albumin and casts and was scant in amount for the twenty-four hours previous. In this case 55 ccm. of the serum was given in three days. The urine cleared after the first injection of ccm. and the patient passed 80 ounces in the following 24 hours. Her general condition also improved. In seven cases the results were negative.

During the course of their investigations, Heide and Rougay found that severe contractions of the uterus did not cause pain unless the presenting part or the bag of waters compressed the cervix or other pelvic organs. Small doses of the serum seem to cause more of reaction than larger doses. The most frequent symptoms noted by the author were chill, which lasted from two to thirty minutes, nausea, and vomiting. EDWARD L. CORWELL.

Dietrich Intrauterine Rupture of the Fetal Liver (Intrauterine extrahepatische Ruptur der kindlichen Leber). *Monatsschr. f. Geburt. u. Gynäk.* 1911, xxxvi, 165.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäk.

The rupture occurred in the right lobe of the liver near the lower margin, and consisted of deep stellate tears through the parenchyma. The child was delivered with forceps on account of the prolonged labor. The heart tones were normal before the extraction was begun, but were heard to stop. Autopsy showed that the child died of internal hemorrhage into the peritoneal cavity through the hepatic rupture. ZIMMER.

Adair F. L. Care of the Umbilical Stump. *J. Am. M. Ass.* 93, 1911, 577. By Surg., Genl. & Obst.

Adair discusses the etiology pathology and clinical signs of omphalitis. He reports the bacteriological investigations carried on in sixty-five cases of new-born babies. In seventeen cases there was no bacterial growth. Non-pathogenic bacteria were found in thirty-three cases and pathogenic organisms in twenty cases. The staphylococcus was found in eight cases and the bacillus coli in four. In other words, pathogenic organisms were present on the cord and in its surroundings in nearly one fifth of the cases immediately after birth, although rigorous measures were taken to obtain aseptic conditions.

Essentials for the growth of organisms are first, the presence of germs; second, the proper degree of temperature; third, suitable culture media and environs; and fourth, the presence of moisture. We can prevent the contamination of the parts and assist to the removal of the organisms by aseptic and antiseptic measures. The body-heat furnishes the proper temperature for bacterial growth but cannot be interfered with. The devitalized tissue of the cord forms an excellent medium. This we may remove by ligating or clamping the cord close to the skin margin. The presence of moisture may be controlled by keeping the small stump of cord under conditions which favor rapid drying.

These four conditions were fulfilled as follows. After the cessation of pulsation the cords were clamped near the skin margin and the surrounding skin and cord were cleaned with alcohol. The clamp was removed and in the groove that it had made ligature was placed. In some cases the end of the cord and the surrounding skin were painted with 50 per cent tincture of iodine and in others they were left untreated. A sterile gauze dressing was then tied over the end of the cord. The babies were oiled for three days and then washed until the navel was healed. After this, tub baths were given. Each day the surrounding skin was washed with alcohol, and the dressing changed when necessary. By this comparatively simple method even serious umbilical infections were quite effectively combated. HARRY SCHOTT.

Krüger: The Care of the Nipples During Pregnancy (Warnempfehlungen in der Schwangerschaft) *Monatsh. f. Geburtsh. u. Gynäk.* 9 3, xxvii, 467.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Sixty per cent of the nipples that received no preliminary prophylaxis during pregnancy remained intact during the nursing period, whereas only thirty-four per cent of those that received attention did not become excoriated or fissured. Those cases that received preliminary prophylactic attention not infrequently developed a mastitis. Krüger considers manipulation about the mammae dangerous, for he has found it to be sufficient to bring on premature delivery. **Zusammenfassung.**

Beiley H. C. The Clinical Significance of the Uterine In Pregnancy. *Am. J. Obst. & Gynec.* 1917, lxxvii, 263.
By Surg. Gynec. & Obst.

The author ends his exhaustive article with the following conclusions:

1. Liver degeneration in the toxemias of pregnancy is accompanied by low nitrogen excretion. Changes have been reported also in the ratios of the nitrogen fractions.

2. Liver degeneration produced by number of toxic substances is accompanied invariably by an increase in the total nitrogen excreted, but without important changes in the relationship of the various fractions to the total nitrogen.

3. Folin's work would attribute the amino-acid decarboxylation chiefly to the tissues.

4. Pre-eclampsia and eclampsia may show no marked changes in the nitrogen partition.

5. It is probable that except for a lowering of the total nitrogen and changes in the various fractions due to the diet and the amount of absorption, the nitrogen partition in eclampsia will show no great differences in relationship. **N. S. S. 1917.**

Thompson, W. M. The Influence of the Thyroid Glands on Pregnancy and Lactation. *Surg. Gynec. & Obst.* 9 3, xvi, 26.
By Surg. Gynec. & Obst.

In this paper are presented the reports of various laboratory workers together with description of some experiments made by the author. It is shown that the sexual organs cause changes in the thyroid gland and the latter also influences the former. Thus in pregnancy there is a well-recognized hypertrophy of the thyroid that is normal. Goiter is discussed (1) as to the influence of childbearing on Graves' disease, (2) as to the influence of goiter on childbearing, and (3) as to the condition of the children of exophthalmic mothers. Clinical reports on the influence exerted by the thyroid upon lactation were cited. After reviewing the experiments of Mame and Lenhart, of Halsted of Johns Hopkins, and of Aldger and Thiersch, the writer closes with a description of experiments made on nine pregnant dogs. These experiments showed that the removal of one lobe of the thyroid had little or no influence on pregnant dogs or on their pups after birth. The

removal of one half, on the other hand, with the ligation and destruction of the remaining portion and of the parathyroids, was followed by tetanic seizures and death of the mother and pups. Further it was shown that the total removal of the thyroid and parathyroids was followed by trembling and rigidity and that after birth of the puppies the milk was scanty and later both mother and progeny died.

Thompson's conclusions in brief are that the thyroid is a sexual gland if it originated from glandular organ in connection with the sexual structures of the Paleozoic ancestors.

A lack of thyroid secretions influences sexual activity diversely. Sexual activity whether it be physiological or pathological, causes a hyperactivity of the thyroids. Hyperthyroidism constitutes an index to the toxemia of pregnancy to counteract which the thyroids raise their antitoxic protective power. Clinical evidence supports the theory that the physiological hyperactivity of the thyroids is a valuable safeguard against the toxemias of pregnancy. **CAREY CULBERTSON.**

Polan: The Biological Diagnosis of Pregnancy (Zur biologischen Schwangerschaftsdiagnose) *Monatsh. f. Geburtsh. u. Gynäk.* 9 3, xxvii, 477.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Although Polan's results were correct as a rule he occasionally obtained a positive reaction in non-pregnancy and a negative reaction in pregnancy. He fails to explain the cause of the error. Since all fetal organs as well as the serum and amniotic fluid come into communication with the maternal blood by way of dialysis, it is just as fair to assume that any or all of these may give positive reactions as well as the placental elements.

The serum of gestation contains more hemolysins than does that of other blood. Boiled placenta and various fetal organs, especially the lung, show a greater hemolytic activity toward the erythrocytes of pregnant than toward those of non-pregnant women. **Zusammenfassung.**

Schwartz: The Serodiagnosis of Pregnancy *J. Am. M. Assn.* 9 2, lii, 424.
By Surg., Gynec. & Obst.

The author refers to the greater value of Abderhalden's biological test as compared with Rosenthal test. He discusses the underlying principles. Abderhalden's work on cell metabolism, particularly as it regards protein metabolism, the mobilization of protective ferments in the blood, and the entrance of foreign material into the blood. He describes the dialysis method for the detection of proteolytic ferments in the blood and gives his personal experience with it.

He reports the records of twenty-one pregnant and four puerperal cases in which the test invariably gave the violet-blue ninhydrin reaction, while the controls remained colorless. He investigated also eighteen non-pregnant cases, including several tubal

enlargements and four uterine fibroids. In addition, the tests were made on two males. 1 all of these, the dialyzates of both tests and controls remained colorless.

HARRY SCHMIDT.

Maccubreni, F. The Applicability of Abderhalden's Reaction for the Serum Diagnosis of Pregnancy (Über die Verwendbarkeit der Abderhaldensche Reaktion bei der Serodiagnose der Schwangerschaft) *Mittheil. med. Wchsch.* 913, 10, 1-50.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author investigated Abderhalden's serum reaction in one hundred cases of pregnancy. He employed the polarimetric and the dialytic methods and was able to confirm Abderhalden's results. The reaction occurs early in pregnancy and persists fourteen days after labor and after abortion. Of the results obtained in eighty-five only one was negative and only two were doubtful. Only once was a positive reaction obtained in the course of pregnancy.

The author further investigated the dialysis method with fetal serum. Contrary to the results of Declos, he obtained positive reaction in several cases. The examination of the urine of pregnant women did not reveal anything definite. The liquor amnii may at times give positive reaction. The spinal fluid in 4 cases of eclampsia gave negative reaction. In few cases of albuminuria, severe vomiting and eclampsia, the reaction was neither very early nor very positive. The question whether the reaction level is only the placenta or also the fetus depends upon whether the fetus produces protective ferments in the mother. The investigations so far are too few to warrant conclusions.

B. RABE.

Hertz, E. A Case of Rupture of the Uterus Following the Administration of Pituitrin (Ein Fall von Uterusruptur nach Pituitrin) *Zentralbl. f. Gynäk.* 1913, 10, 1-20.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Following the injection of cc. of pituitrin in case of labor with weak pains and three to four fingers cervical dilatation powerful contractions set in which within ten minutes assumed tetanic character. About one hour after the injection there occurred a severe tetanic contraction with sudden collapse and the spontaneous delivery of deeply asphyxiated child. The expulsion of the placenta was followed by hemorrhage due to transverse laceration of the lower uterine segment through which the child and placenta had been delivered. The tear remained subserous. The portio was entirely free in vivo and connected with the uterus only posteriorly. Tamponade as performed and pantopon administered. Three weeks later the patient was discharged.

Hertz believes that it is a mistake to administer pituitrin in the first stage of labor. In the case reported, however, there may have been some unusual condition. In forty-seven cases pituitrin

frequently caused nausea, dizziness, vomiting and tinnitus aurium, especially in weak, anemic women. The influence upon the child also was bad. The unfavorable results reported from other sources include uterine atony post-partum asphyxia of the child, collapse, tinnitus aurium, nausea and dizziness, contraction of the cervix, tetanus uteri, and premature separation of the placenta. Pounce.

Jawetz, A. S. Gonorrhea: Relation to Pregnancy and the Puerperal Period. *J. Indiana St. M. Ass.* 9, 3, 4, 111. By Surg. Gynec. & Obs.

The author has classified gonorrheal infection in the pregnant woman as follows:

Acute gonorrhea. (1) Infection present at the time of uterine implantation. (2) Infection occurring during the first four months of pregnancy. (3) Infection occurring between the fourth and the seventh months. (4) Infection occurring between the seventh month and delivery. (5) Infection occurring after delivery during the lying-in period. This is very rare.

Chronic gonorrhea. Active form. (1) Simple chronic gonorrhea in which the disease runs an unchanged course during the entire pregnancy and puerperium. (2) Acute exacerbation of chronic gonorrhea, occurring during any period of the pregnancy or the lying-in period. Latent form. (1) Gonorrhea demonstrable, but subjective and objective symptoms negative. (2) Gonorrhea demonstrable, but previous history and subjective and objective symptoms suggestive.

From observation the author has learned that the treatment should differ according to the period of pregnancy on account of the danger of interrupting the pregnancy. There is always a chance of abortion during the first four months and of premature birth during the last two months, in the presence of a specific acute or chronic endometritis.

Conservatism is the keynote in treatment. Rest and instrumentation is contra-indicated. If the infection is unusually severe active treatment is sometimes indicated between the fourth and seventh months.

The author uses forceps in these infected cases only as a last extremity and believes that perineal tears should as a rule be cleaned and repaired. If the vulvo-vaginal gland has formed an abscess, it is usually drained and packed before delivery.

His conclusions are as follows: (1) Chronic gonorrhea, or an acute involvement of the endometrium that is present at the time of uterine implantation is much more serious as regards the successful termination of pregnancy than primary acute disease that occurs after gestation. (2) Indulgence and conservatism in the treatment show the smallest percentage of serious complications and the best ultimate results. (3) Post-partum infections are best treated by absolute rest and good drainage; operative procedure should be undertaken only after careful consideration of specific indications.

EDMUND CART.

GENITO-URINARY SURGERY

KIDNEY AND URETER

Coburn, Ott. The Physiology of Kidney Secretion (Zur Physiologie der Nierensekretion). Stuttgart, d. Heide. 1904 d. Hirschwald. 114 p. 10 s. 10.

By Zentralbl. f. d. ges. Chir. (reuzg.).

From an examination of mammalian kidneys taken fresh from the body (freed from blood and macerated), the author attempted to determine whether combination takes place between sugar and salt and the solid constituent of the kidney and whether there is definite limit beyond which this combination does not take place. As Magnus had already demonstrated for the solution of sodium chloride from uric acid, the author came to the conclusion that such combination actually does take place and that sharp boundary for salt can be determined at 6 per cent. If the kidney is put into salt solution of lower concentration no combination takes place. On a considerable amount recombined from solutions of higher concentration. For grape sugar the limit is 0.3 per cent. The combination was easily dissolved by heating.

These processes cannot be explained by osmosis, because then there could be no explanation for the sudden variation in the limits, but Corbett believes that the kidney fixes the material from the solution by chemical combination and absorption.

14 14

Grigorjew, S. P. The Radiographic Examination of the Kidneys (Die Röntgenuntersuchung der Nieren). Leipzig, d. J. F. Bergmann. 1904. 11 s. 10. 75. By Zentralbl. f. d. ges. Chir. (reuzg.).

The author considers important not only diagnosis of the kidneys but also the fluoroscopic examination. The absence of respiratory movement of the kidney speaks for perinephritis diseases. The higher grades of wandering kidney can also be demonstrated in this manner. If during repeated illumination the contour of the kidney of the shadow is not visible, perinephritis must be thought of. Furthermore all stones larger than millet seed can be seen in fluoroscopic illumination. If during deep respiration the stone and the lower pole of the kidney do not change their relation to each other the shadow is of intrarenal origin. If change does occur in the relation, the shadow is of extrarenal origin. The author possesses a respiratory mobility of 1 cm. To obtain good result in radiography the time of exposure must not be more than one sixth to one tenth of a second and 10 exposures should be taken, one during inspiration and one during expiration.

The author has collected eighty-two cases of nephrolithiasis. In eleven cases the stones were passed. In forty-four cases the stones were removed by operation. In two cases the stones were bilateral. In all instances the radiographic diagnosis was correct. Only in one case in which the stone was localized in the cervix of the uterus was it found to be in the infundibulum. In six cases the diagnosed stones were not found on operation. In three of these, however, spontaneous expulsion of the stone was observed, and in the other three the stones remained in the kidneys and gradually increased in size. According to the author the determination of the size of the stones by means of false projection is impossible.

114 s.

Kawase, M. Anatomical Changes in the Kidney After Ligation of the Ureter (Ueber die anatomischen Veränderungen der Nieren nach dem kavalen Ureterverschluss). Ztschr. f. Anat. u. Physiol. 1904. 7.

By Zentralbl. f. d. ges. Chir. (reuzg.).

The author reports the anatomical changes in a case of hydronephrosis, in which the post-mortem examination of the animal was made 300 days after the ligation of the ureter. Corbett found changes caused by nephrotic processes on the non-ligated side. Kawase, however, did not find such changes and emphatically denies that any change is caused on the non-operated side by the ligation of the ureter. The alterations found by Corbett he believes must have been caused by septic infection resulting from the operation. On the ligated side there was marked trophy of the parenchyma, while the same amount of fluid was present in the pelvis of the kidney after 300 days as after 70 days. The glomeruli were the most resistant part of the kidney parenchyma.

A. HIRSCHMANN.

Hadden, D. Bacteriology of the Urin in Relation to Movable Kidney. Calif. St. J. Med. 9 3 1906. By Surg. Gynec. & Obst.

Hadden records eight cases to show that displaced kidney causes stasis of the urine and through the alteration of the chemical contents, furnishes a medium in which certain germs, entering from the neighboring organs or from the blood stream, can grow.

He believes that left-sided ptosis is more frequent than is generally supposed, and that in many cases it is not associated with right-sided ptosis. The reason he gives for the fact that many cases of displaced kidneys are without symptoms is that the individual is in good physical condition and as long

as such is the case the peristaltic action of the kidney pelvis, and ureter is maintained and stasis of urine is prevented.

If the treatment, results cannot be expected from vaccines until the ptosis is corrected and drainage is effected. He claims that we have swung from kidney fixation because we have tried to cure movable kidneys, associated with enteroptosis, without supporting the other organs. It inclines to the method of Longyear with the fixation of the capsule as it corrects any colon sag that may be present.

His conclusions are as follows: (1) Normal urine is sterile (2) the greater number of chronic infections of the urinary tract are associated with a bladder or kidney ptosis or both (3) unilateral nephritis is a condition of infection having a kidney sag as its origin (4) many movable kidneys are without pathological significance because the muscle tone is unimpaired (5) when the muscle tone becomes impaired we have urine stasis and infection, (6) every movable kidney is a latent source of trouble (7) in the bacteriological examination of the urine we have means of diagnosing the pathological "floating kidney" (8) the degree of symptomatology depends on the kind of infection and the mobility of the patient and (9) if we are able to diagnose positively pathological floating kidney we will consider more seriously the operative treatment and the type of operation, for at best the kidney support is only temporary and it is often impossible to apply it properly. LOREN GRON.

Vincent W G A Unusual Case of Renal Hematuria; Unilateral Chronic Hemorrhagic Nephritis; Decapsulation Apparent Cure; Recurrence; Bilateral Decapsulation; Decapsulation of Both Kidneys Six Years Later. *Med Res* 9, 3, 1920. By Berg Gyner & Ober.

The authors report a case in which the right kidney was found to be the source of severe and long continued hemorrhages. Decapsulation on that side was followed by rapid disappearance of the symptoms and an apparent cure for five years. During the sixth year the symptoms recurred and catheterization of the ureters showed that the hemorrhage was bilateral. Decapsulation of both sides was then performed. Patient's condition improved, but symptoms were not fully relieved.

Examination of sections from the kidneys showed chronic hemorrhagic nephritis. The right kidney gave evidence of "replacement fibrosis" following the first decapsulation. H. L. SURROD.

Pena, M. On the Significance of Renal Hematuria Immediately Following Nephrectomy for Tuberculosis (De la valeur de l'hématurie rénale immédiatement consécutive à une néphrectomie pour tuberculose). *J. Chir.* 19, 3, 1920.

Post-operative hematuria from the remaining kidney after nephrectomy for tuberculosis is but

little recognized, though it occurs often. It is a hemorrhage of pure blood, and begins usually from one to five days after the operation. It may not appear until the fifteenth day. In two thirds of the cases the hemorrhage is severe. It is intermittent and lasts usually short time, usually for one or two days. In some cases, however, it may continue for eight, ten or thirty days. It ceases gradually. I attribute the hematuria following nephrectomy for tuberculosis may be characterized as a idiopathic hematuria, not very intense, intermittent, and of short duration.

The pathogenesis is doubtful. The hematuria may be due to tuberculosis of the remaining kidney to benign colon bacillus infection of the remaining kidney or to the compensatory hyperemia of the remaining kidney. The prognosis is bad in the first case and good in the others, but it is difficult to state the beginning to which class it belongs. J. TAYLOR.

Nijm A. J. The Question of Ascending Infection of the Kidney and the Prevention of the Same by Implantation of the Ureters into the Bowel (Zur Frage der aufsteigenden Niereninfektion und der Verhinderung derselben bei der Uretertransplantation in den Darm). *Darmheiler*, St. Petersburg 913.

Dr. Zornfeld, f. d. gra. Chir. u. I. Chirurgie.

From a large amount of data in the literature and from his own experience, the author comes to the conclusion that transplanting the ureters into the bowel is better than transplanting them into the skin. While the danger of kidney infection is less. The cases in which ureteral implantation may be used may be divided into four groups as follows.

(1) Diseases in which in addition to the ureteral implantation, the bladder must be extirpated, as in ectrophy of the bladder, carcinoma of the bladder, carcinoma of neighboring organs in which the bladder also is involved, benign but frequently recurring tumors, and tuberculosis of the bladder with marked anatomical changes, (2) diseases in which ureteral implantation is performed without extirpation of the bladder as in tuberculosis which is not accompanied by serious changes of the bladder but which does not respond to the usual methods of treatment and in high epispadias with insufficiency of the sphincter of the bladder, (3) diseases in which the ureteral implantation is indicated as palliative operation, as in inoperable carcinomas, bladder tuberculosis with tuberculous kidneys, and generalized tuberculosis.

The infection of the kidney following transplantation of the ureters is primarily urogenous. It is favored immediately after the operation by the stasis of the urine in the ureters due in part to the reflex paralysis of the ureters and in part to constriction of the anastomotic ring and the bowel musculature, and to inflammatory infiltrations. Later on, after the ureters have recovered, it may be due to the lymphatic stream. The principal organism is the bacillus coli communis.

The author discusses eleven personal cases. In all, the operation was performed according to the method of Mikoworoff of the Oppel clinic. Seven times it was for ectropion of the bladder, three times for high epispadias with aplasia of the bladder sphincter and once for high grade tuberculosis. Ten of the operations were radical and one palliative. The latter cured the patient of his continual desire to urinate and of his pain. Seven patients were discharged cured and four died, one of peritonitis, one of shock, one of generalized tuberculosis, and one, ten and one half years after the operation, as a result of sepsis following a plastic operation on the bowel. Excluding the last two cases, there remains an operative mortality of 18 per cent both of the deaths occurring in children aged one year and nine months, and one year and two months respectively. The author agrees with Blaud that the operation should not be performed in children. During the post-operative period lactobacilli was given and was well tolerated by the patients. In three cases in which there was an inflammatory condition of the bowel the result obtained was good, and in others the discharge of mucus ceased. In one case no effect was obtained. From thirteen examinations following the operation it was found that there was a retention of the chlorides of the urine attributable to a pyelitis and a decrease in the excretion of nitrogen also occurred and probably the polyuria from which most of the patients were suffering. Urinary symptoms were not observed. In four cases of post-operative pyelitis the vaccine therapy of Wright was employed, a togenous colon vaccine made from rise organisms being injected in small doses which were gradually increased. The maximum dose was 50 million bacteria. In two of the cases, cure resulted following six injections. One case improved, and in another the injections had to be discontinued on account of the continuous high temperature. In one case the vaccine was used prophylactically before the operation.

After the author had employed the vaccine on eighteen dogs experimentally he came to the conclusion that it cannot prevent the ascending infection of the pelvis and kidney. The disease was more severe and set in earlier in those cases in which a stenosis of the anastomotic ring and stasis of urine occurred. In cases in which the flow of the urine was free, the kidneys were found to be healthy even a long time after the operation. The monograph is accompanied by an extensive bibliography, three plates, and numerous drawings. O. von SCHILLER.

Comdon A. P. Unilateral Septic Infection of the Kidneys. *N. Y. M. J.* 93 April, 70.

By Surg. Gynec. & Obst.

Unilateral septic infection of the kidney is caused by the successful invasion into the kidney of microorganisms and their products which usually produce numerous suppurative abscesses and often violent general symptoms.

The writer reports two interesting cases, one a severe type demanding immediate operation and the other a milder form.

The origin of these infections is usually hematogenous. Predisposing causes are (1) Pregnancy (2) passive congestion of the kidney; (3) infections such as erysipelas, endocarditis, scarlet fever, etc. The exciting cause is a pathogenic micro-organism, usually the colon bacillus.

The symptoms appear suddenly and consist of severe continuous pain over the affected organ, marked tenderness, hyperesthesia of the skin over the kidney and rigidity of the lumbar muscles. There is usually vomiting, fever, rapid pulse, prostration and high leucocytosis. The urinary findings and pathological findings may be absent; usually however there is pus, albumin, and microscopic blood.

The indications for operation are: (1) Intensity and progressiveness of symptoms (2) high temperature (3) leucocyte count above eighty, etc. Such cases should be operated upon at once. A few will undergo resolution and others will recover if properly drained. A radical operation, however, is usually indicated.

The writer mentions Brewer and Cobb as having done extensive work in the study of septic conditions of the kidney. J. A. MOORE.

Papin. The Localization of Renal Tuberculosis by Radiography (Localisation de la tuberculose rénale par la radiographie). *Arch. urol. clin. de Vichy* 93, 4, 97. By Journal de Chirurgie.

Radiography sometimes shows at the site of a tubercular kidney spots corresponding either to hollow spaces or calcareous or caseous areas. These spots may be of prime importance in deciding the question as to whether nephrectomy should be performed in the case of a subject who shows urinary tuberculosis but in whom the bladder cannot be explored on account of its sensitiveness. In such a case we can demonstrate that one of the kidneys is sound if Ambard's coefficient, the relation of the urea in the blood to that in the urine is normal but we still have to determine which is the normal kidney. If we have no other localized symptoms, radiography may settle the question. The author cites two cases in which, when the kidneys showed a spot in the radiographic picture, bladder exploration was impossible, and the Ambard coefficient was normal or subnormal, nephrectomy was performed successfully. MAURICE CHIVASSU.

Thomson J. The Infection of the Urinary Tract in Children by the Colon Bacillus. *Lancet*, Lond. 93, clxxxv, 457.

By Surg., Gynec. & Obst.

On the basis of seventy-one personally observed cases of this kind, the author concludes that different types of colon infections are predisposing factors. He differentiates between the normal colon bacillus and the virulent organism. Any cause that retards

the downward passage of the urine is influential in inviting colon bacillus infection. This infection is twice as common in children under two years as in those that are older. Seventy-nine per cent of the cases that he observed occurred in girls. During the first six months of life, however, a much greater number of boys than girls were affected. An analysis of cases of two hundred and twenty-four babies two years of age, reported by thirteen authors, shows that more boys were affected during the first six months than at any later age. The author claims, further, that the attacks in male patients are apt to be more severe than those in females and there is usually in the former a much larger proportion of cases of fatal pyelonephritis. He does not attempt to explain the reason for this.

The differential diagnosis of acute colic-pyelitis depends, first, on the presence of pus and colon bacilli in the urine along with the typical general symptoms which the author describes somewhat in detail, and second, the absence of any sign of organic disease outside of the urinary tract that might account for the condition.

As treatment Thomson recommends, first, measures to cause the urine to become alkaline, second, the administration of antiseptics and third the use of serums and vaccines.

Glynn, E., and Hewatson, J. T. Adrenal Hypernephroma in the Adult Female Associated with Male Secondary Characters. *J. Pathol. & Bacteriol.* 19, 3, xviii, 2.

By Surg. Gynec. & Obst.

The case is reported of a woman forty-four years of age who for sixteen years has been showing gradually increasing number of sex abnormalities. Her voice was coarse, her face and trunk hairy and her breasts were of the male type. At the operation which was followed by her death, twelve pound tumor was removed from the region of the left kidney. Microscopical examination showed it to be of adrenal origin.

The authors compare the structure of this tumor with that of the similar tumors which they have had the opportunity to study. They classify all five as adrenal hypernephromata. In contrast distinction to renal hypernephromata, and maintain that tumors of this type are not malignant.

Seven cases of adrenal hypernephroma in young adult females, associated with changes in sex character are tabulated. Our knowledge of the relationship of such tumors to abnormal sex characters is summarized by the authors as follows:

In children, hirsuties and other abnormalities are almost invariably present.

1. In adult females before the menopause, sexual abnormalities are frequently present.

2. In females after the menopause definite sexual aberrations are not recorded.

3. In adult males such changes are not noted.

4. There is no evidence that hypernephroma in the kidney which has totally different histological

structure from that in the adrenal, is ever associated with abnormal sex character. G. G. Straub.

Jacobs, L. Pyelography. *T. Am. Rhys. Ray Soc.*, Boston, 9, 3, Oct. By Surg. Gynec. & Obst.

There were two important epochs in the development of the roentgen diagnosis of diseases of the urinary system. The first began in 1898, when Leonard published his papers establishing the rules for the determination of the sufficiency of the roentgenogram in order to make a positive or negative diagnosis regarding urinary calculus; the second in 1905, when pyelography and cystography were introduced by Voelcker and von Lichtenberg.

Pyelography enables us to diagnose hydro-nephrosis, renal tuberculosis or tumor, the position of the kidney, and congenital anomalies, such as fused kidney, kinks, constriction or dilatation of the ureter and diverticula.

Cystography shows the size and shape of the bladder anomalies and pathological conditions, such as diverticula and trabeculations, and changes caused by hypertrophy of the prostate.

The dangers of pyelography are collapse due to over-distention of the renal pelvis, irritation of the kidney followed by high fever, and deposits of the silver salt in the kidney substance. Caution is advised where only one kidney is present or when the other kidney does not functionate properly. The dangers of pyelography were further illustrated in a case in which diverticulum in the ureter could be demonstrated only by argyrol, and in which several months later the shadow of the diverticulum could be seen very distinctly. The patient refused operation, so that the question as to whether the silver salt had remained in the diverticulum all this time could not be solved.

Leatern slides were shown illustrating the various conditions named above.

In the discussion STOVES of Denver suggested that the shadow remaining in the region of the diverticulum may have been due to calculus that was not shown before because of its chemical composition but which became visible as the result of absorbing some of the argyrol.

Leguen and Papin. The Technique and Accidents of Pyelography (Technique et accidents de la pyelographie). *Arch. mal. des. de l'Acier*, 9, 1, 2. By Journal de Chirurgie.

By pyelography the authors mean the injecting of substance that is opaque to X-rays into the ureters and pelvis of the kidneys before taking a picture. Leguen and Papin have worked on this for ten years and report the method used, the results obtained, and the accidents met with.

They found that the best method is to inject ten per cent collargol through ureteral catheter passed up to the pelvis of the kidney. Also that it is better to introduce the collargol by gravity from a cuvette 80 cm. above the patient than to force it in with syringe. When the pelvis is full

there is pain in the back and no more fluid should be used. The fluid must remain in until after the radiograph is taken. It is not necessary to wash it out.

By pyelography it is possible to demonstrate the exact location of the pelvis of the kidney its relations to the ureter and the presence of curved ureters, double ureters, hydronephrosis tumors, stones (the latter especially if oxygen is used instead of collargol) tumors of tuberculous cavities, etc. In short, it is invaluable in the diagnosis of renal troubles and of lesions of the pelvis or ureters.

Pyelography may be accompanied by pain which lasts for several hours or even days afterwards and which may resemble kidney colic. Small doses of morphine and hot compresses in the lumbar region, however give relief. There is also sometimes slight fever (38° to 39° C.) lasting for two or three days. Sometimes there is infiltration of the renal parenchyma, which may be seen by radiography and upon operating. This in one case caused death (Rösle). Leguen and Papin believe it to be due to the use of too great pressure. I administer of the collargol, for they have had no such trouble since they stopped using a syringe.

MEYER (see over)

Van Mieris, G. Experiences in Renal Surgery (Erfahrungen aus dem Gebiet der Nierenchirurgie. Dordrecht: Frenkel, 93)

By Zentralbl. f. d. ges. Chir. Weinberg

In this monograph the author describes three hundred and forty nine kidney operations that he performed during a period of eight years. The diagnostic and operative methods are minutely described, and the work is full of practical hints. The operative results are noteworthy. There were twenty four cases of tumor with 6.6 per cent mortality; seventy five cases of kidney and ureteral calculi, with mortality of 6.6 per cent; twenty cases of hydronephrosis with mortality of 1 per cent; twenty five cases of pyonephrosis with a mortality of 20 per cent; sixteen cases of pyelonephrosis, with mortality of 30 per cent; sixteen cases of pyelonephritis and kidney bacem, with a mortality of 0 per cent; and 4 cases of tuberculosis, with a mortality of 4 per cent. The end-results of the last, however showed mortality of 17.4 per cent. There were three cases of noma, one of syphilis of the kidney one of cystic degeneration. Of floating kidney there were fifteen cases, with no mortality. Nine exploratory operations had no mortality. Perinephritis fibrosa, five cases, and perinephritic bacem, three cases, had no mortality. The average mortality was 7 per cent.

VON LÖNNBERG

Gibson, J. H. The Technique of Nephro-, Pyelo- and Ureterolithotomy. Ann Surg Phila., 93, 1914, 11.

By Surg. Gynec. & Obst.

Nephrotomy is the operation of choice only for large, branching, phosphatic stones, for small stones

lodged high up in the calices, and for cases in which the kidney is badly infected. In other cases pyelotomy is preferred. For the removal of multiple, widely distributed stones, the author prefers making several incisions directly over the calculi instead of splitting the entire kidney.

Pyelotomy is favored for the removal of most renal calculi. The fat overlying the pelvis and the pelvis itself should be incised longitudinally in different planes, and at the conclusion of the operation they should be sutured separately. There is little danger of urinary leakage when this plan is followed.

If stones in the lower part of the ureter are not easily located by the extraperitoneal route, the author at once resorts to the transperitoneal method of approach, using this, however, only for the purpose of locating the stones and pushing them into a position where they will be accessible through the extraperitoneal wound. This method promotes speed in operation, gives an opportunity to thoroughly explore both ureters, and has been found to be safe.

S. W. MOOREHEAD

Bronberg, R. A Contribution to the Functional Diagnosis of the Kidney (Beitrag zur funktionellen Nierendiagnostik). Beitr. z. klin. Chir. 93, 1913, 4. B. Zentralbl. f. d. ges. Chir. 4. Grossgeb.

Lowenhardt was the first to call attention to the value of determining the electrical conductivity for the functional diagnosis of the kidney. The method has rendered very good results as has been stated several times by Kummell. Bronberg employs a slightly modified apparatus for measuring the electrical conductivity and emphasizes particularly the value of comparing the electrical conductivity of the blood serum and of the urine of both kidneys. According to the author this hemorrhetic index is the only method by which the functional activity of the kidneys can be determined absolutely.

OSLERICKER

Scott, G. D. Hydronephrosis Produced by Experimental Ureteral Obstruction. J. Indiana St. M. Ass. 93, 1, 1930.

By Surg. Gynec. & Obst.

Scott describes and draws conclusions from original experiments performed upon some fifty dogs. He found that hydronephrosis can be obtained from both complete and partial ureteral obstruction the degree depending upon the duration of the obstruction. Complete obstruction was the more rapid in development.

The pathological changes were due to the back pressure of the retained fluid on the kidney epithelium and to the poor nutrition resulting from pressure on the renal vessels. The tubules were dilated the epithelium was flattened and its cytoplasm became granular. The interstitial tissue was increased and in late stages the vessels were sclerotic. In hydronephrosis even of the latest stage, the kidney epithelium was capable of regeneration.

C. D. PICKRELL

BLADDER, URETHRA, AND PENIS

Legueu Foreign Bodies in the Bladder and Their Treatment (*Fremdkörper in der Blase und ihre Behandlung*). *Arch. wien. med. Ztg.*, 9, 2, 1911, 75. By Zentralbl. f. d. ges. Chir. u. f. Grenzgeb.

The author reports the removal of a hairpin from the bladder of a young girl and discusses the symptoms of foreign bodies, especially hairpins, in the bladder pointing out the most appropriate treatment. For diagnosis the X-ray should not be depended upon entirely but each case should, if possible, be cystoscoped. Extraction without the aid of the cystoscope, by means of a hook or similar instrument, usually fails, since the pin generally lies transversely and it is quite difficult to hook it in its closed end.

Even with the aid of the cystoscope the author found it so difficult to remove the pin that he advises suprapubic incision. In the female if the foreign bodies are smaller and not encapsulated, the author makes an incision about 5 cm. in length beneath the symphysis and between the clitoris and urethra. This incision extends to the bladder and the urethra is opened along its whole length without injuring the colliculum vesicae. After the foreign body has been extracted the incision is sutured and heals without the formation of fistula. *Drucks*

Buxbee H. G. The Removal of Vesical Obstruction in Selected Cases. *Am. J. Med.*, 9, 3, 1910, 40. By Surg. Lyner & Ober.

The author agrees the use of the high frequency current applied in the same manner as proposed by Beer in the destruction of vesical papillomas, to burn away obstruction at the bladder neck, and in cases of enlarged prostates and median bars. He reports fourteen cases of various kinds of obstruction in which the obstructing part was burned away or through, and in which he reduced the residual urine. The article has numerous illustrations which show the marvelous manner in which the obstructing portion disappears. *B. S. BARRINGER*

Legueu The Electro-Coagulation of Tumors of the Bladder (*De l'électro-coagulation des tumeurs de la vessie*). *Arch. anat. clin. de Necker*, 9, 2, 1911, 31. By Journal de Chirurgie

Excision is the treatment of choice for tumors of the bladder if of considerable size, but for extremely small tumors or for small recurrent nodes the endovesical treatment is distinctly preferable.

Legueu has studied the action of high frequency currents on tumors of the bladder using both Beer's method, which has coagulating and diathermal effect, and the method of Heltz, Boyer and Cottenot, which has a dilating action. The two methods seemed to him to be about the same in their action as well as in their results. He prefers Beer's method, however, as it does not require a special cystoscope. It has had an electrode made the size of urethral sound which can be

passed through any cystoscope. It ends in a copper button through which the diathermal current is passed by means of a d'Arsonval bipolar apparatus.

The action of the diathermal current is described in detail. The author studied it histologically as a tumor treated by electro-coagulation immediately before it was excised.

He gives his patients' treatment of five minutes duration every two weeks, with a current varying in intensity from 50 to 350 milliamperes. It is useless to give the treatments closer together for the elimination of the coagulated particles takes a considerable length of time. He used the method five times for palliative treatment and noted that it caused a diminution or cessation of hemorrhage. Five times he used it for curative purposes: two tumors were cured after five treatments, one after six treatments, one almost cured after six treatments, and one was very much decreased in size after the sixth treatment.

The application of high frequency currents in the treatment of tumors of the bladder constitutes great advance in endoscopic technique.

MARCELO CERVINO

François, J. Transformation of Cystic Cystitis into Glandular Cystitis (*Sur la transformation de la cystite kystique en cystite glandulaire*). *J. d'anal.*, 9, 3, 1907. By Journal de Chirurgie

François made an histological study on surgical specimen of the transition from cystic cystitis to glandular cystitis.

The patient, a woman 53, entered the hospital for a very intense cystitis with frequent and abundant hemataturia. The rise as painful and the capacity of the bladder was reduced to 60 ccm. The kidneys were normal.

The cystoscope showed the fundus red and tomentous in places. Clinically there was an intense, non bacillary cystitis without involvement of the kidneys.

Operation showed the mucous membrane of the whole trigonum surrounding the openings of the two ureters, red, ulcerated, irregular and tomentous. The right urinary meatus was swollen, red, and somewhat patent. All of the diseased mucous membrane was destroyed by thermocoagulation. A month later the patient had recovered and the capacity of her bladder had reached 300 ccm.

Histological examination. At the edge of the tomentous area, full and sphenoidal rosettes of transitional epithelial nests were found in the submucous layer as the center of the tumor was approached these nests showed a hollow central cavity and the cells bordering the cavity were of the secretory type. In the center of the tumor the mucous membrane had almost entirely disappeared, there were some cystic formations in the submucosa, but the most characteristic appearance was given by mucous glands bordered by a single row of cylindrical cells, resembling the mucous glands of the intestine.

These formations are characteristic of glandular cystitis. The transformation of the polyhedral cells of the vesical epithelium into secretory cells which ultimately take on the characteristics of mucous cells could be observed.

Along with this process mucous cells appeared and multiplied in the covering of the epithelial crypts that is, a certain area of normal stratified vesical epithelium was transformed into a layer of cylindrical cells which were nothing more than mucous cells. The inflammatory lesions of the submucosa were greatest in the zone of glandular cystitis and less intense in the zone of cystic cystitis.

Calcoli, neoplasms, chronic cystitis.—In short any chronic irritation as Chute has shown experimentally—may give rise in the lower part of the vesical epithelium to von Brunn epithelial nests and the cysts which result from them.

The glandular formations may have either one of two origins they may be due to an embryonic inclusion of germinal cells from the intestinal tract as is the case of pure glandular cystitis without cystic cystitis and less intense in the zone of cystic cystitis at the periphery or to the transition of vesical epithelium into mucous cells passing through the stage of cystic cystitis. J. J. STON.

GENITAL ORGANS

Eckels, L. E. Epididymotomy the Radical Operation Treatment of Epididymitis. *J Am Med Ass* 9, 3, 121, 170. By Surg. Gynec. & Obst.

Eckels is firmly convinced of the desirability of the operative treatment in every case of cut epididymitis. His opinion is based on the observation of one hundred operated cases, of which he operated upon twenty-five. He lays emphasis on the marked absence of relapse in the cases so treated and believes, while admitting a lack of direct proof that sterility is largely obviated by surgical treatment. He gives a clear description of the operation, which is simple and harmless procedure.

His conclusions in regard to this operation are as follows: (1) The relief from pain is instantaneous. (2) The internal administration of sedatives and opiates and leathsome external applications are made unnecessary. (3) The abatement of fever takes place in from twenty-four to thirty-eight hours. (4) Pus and abscess formation is prevented. (5) Swelling, tenderness, and other symptoms rapidly disappear. (6) There is no tendency to relapse. (7) Only a minimum of time is lost from usual activities. (8) The percentage of cases of sterility following the disease is probably reduced.

J. DELLINGER BARKER

McGee Remits Effects of Lesions of the Prostate and Deep Urethra. *J Am Med Ass* 9, 3, 121, 177. By Surg. Gynec. & Obst.

Lesions of the prostate and deep urethra are so frequently responsible for symptoms elsewhere often in remote points of the body that more frequent routine examinations of these organs are

necessary. The symptoms may be sexual urinary or referred. The writer discusses these various disturbances and reports a case of marked cardiac and gastric disorders that was unsuccessfully treated in many ways until the verumontanum was examined. The latter was found to be the real source of the reflex processes and was cured. Referred pains may occur in the legs or lower abdomen, and may simulate many conditions, all the more because there is no regularity in their distribution.

Chronic arthritis, impairment of kidney function, myocardial changes even angina pectoris, are also associated with prostatic lesions and this possible relationship must not be lost sight of.

FAXTON L. GARDNER.

Kimmel H. The Diagnosis and Treatment of Early Malignant Disease of the Prostate. *The Journal of the Royal Society of Medicine*, London, 9, 3, Aug. By Surg. Gynec. & Obst.

Kimmel discusses the present status of the question concerning the diagnosis and treatment of malignancy of the prostate gland in its initial stages.

Three points are enumerated as being essential for the definition of the term initial stage: (1) the malignant tumor must be confined to the gland proper and there must be no involvement of the vesical mucosa or of the periprostatic tissue; (2) neither the anamnesis nor the subjective complaints nor the symptoms elicited by examination must furnish any material pointing to a dissemination into any other part of the anatomy from the original focus; and (3) it must be possible to remove the malignantly degenerated gland by any of the operative methods in use for the removal of a simply hypertrophied prostate.

Reviewing all of the available statistics, the author arrives at the conclusion that malignancy in the enlarged prostate is of a much higher frequency than has been believed heretofore.

Judging from his own experience and from the reports of other authors, Kimmel feels justified in formulating the thesis that a cancer may develop in an originally benign hypertrophy and that it is therefore imperative that in every case of hypertrophy of the prostate accompanied by pronounced symptoms, the possibility of malignancy be thought of.

The diagnosis that is the earliest possible recognition of the malignancy of a prostatic tumor is the most important and at the same time the most difficult problem encountered in the whole question. While it has to be admitted that the diagnosis of a cancer in the initial stage cannot be made with absolute certainty still it is a matter of experience that in a vast majority of the cases of this kind the diagnosis can be established with a probability that is very close to certainty.

As leading symptoms in the recognition of prostatic cancer in its initial stage are quoted the sudden appearance of marked dysuria, irradiating pains

that have their beginning in the prostatic region, a characteristic hardness of the gland either extending over the entire tumor or restricted to certain regions of the gland and extreme sensitiveness to touch of the parts involved.

As the method for operation the author recommends the suprapubic route for patients who show symptoms of insufficiency of the renal function the two-step operation is preferred, as it gives the kidneys a chance to rest after sufficient drainage has once been established.

The author sums up his conclusions as follows: Cancer of the prostate is a relatively frequent disease apparently simply hypertrophied glands show malignant degeneration from 1 to 20 to 25 per cent of all the cases the figures varying according to the different material of the different observers.

Cancer of the prostate shows decided inclination to form metastases in the bones however great many cases come under observation in which during the early stage the cancer remains confined entirely to the prostate gland.

Cancer of the prostate in the early stage may be diagnosed in the majority of cases with near certainty and in a smaller number of cases with great probability only few cases in which the diagnosis remains very uncertain.

The statistics of the operation prove that lasting results of eight years duration or thus on reach in a great number of cases the condition of the patient remained satisfactory after the operation for varying time until the disease became manifest.

Considering that prostate cancer in many cases remains during the initial stage an entirely local process and that in the majority of the cases the malignancy may be recognized it imperative to arrive at such diagnosis early as possible and to attempt radical cure by an early operation.

Considering that not only malignant cancer develops in so far normal gland but that apparently in the majority of cases it becomes established in an already hypertrophied gland an early removal of the prostate is to be recommended in every case of hypertrophy if the slightest suspicion of malignancy is aroused.

The reported lasting operative results extending over periods from three to nine years seem to prove that an early operation is permitted to furnish a radical cure for prostatic cancer.

In the early stage of prostatic cancer the ordinary methods employed in the removal of hypertrophied gland are sufficient, more extensive operations are not required in the initial stage.

In case of insufficient renal function the two-step operation should be given the preference as it is the least dangerous procedure. In order to prevent the occurrence of relapses radiotherapy should be employed following the eradication of the gland relapses should be treated in the same manner.

G. ROSENBERG.

Doner J. B. Prostatectomy. *Surg. Gynec. & Obst.* 93, 1911, 57.
By Surg. Gynec. & Obst.

The encircledability of hypertrophied prostate is largely dependent upon the pathological change that is present in the particular case. The encapsulated and therefore encircled adenomatous masses, markedly enlarged in the vertical axis and for this reason more accessible from above are removed with surprising ease by the suprapubic route. The dense, fibrous type, which comprises about 5 per cent of benign hypertrophies, lacks not only this comparative encircledability but, that is of greater importance lacks also an encapsulation that permits of its being belled out.

The cystoscope is the most valuable means of determining the most appropriate operative procedure. By its use we learn the relation of the enlarged gland to the internal vesical orifice and the degree of intravesical projection also the condition of the bladder mucosa, the presence or absence of diverticulation, the location of calculi, their size and shape and whether free or encysted. All of these factors influence the degree the choice of operative procedure.

Benign hypertrophies of the prostate are indistinguishable from carcinoma in its early stages. In all cases of acute or chronic retention that a removable catheterization, in severe cystitis, and in all cases in which for any reason it is impossible to form an accurate estimate of renal function, we must limit ourselves to the drainage operation, reserving prostatectomy for future consideration.

Our advocacy of the suprapubic route is tempered with the principle that successful prostatic surgery depends upon one's ability to recognize the types best suited for and one's skill to perform, either operation. Where the prostate is doubtfully malignant the seat of incurable gonorrhea, and where there is benign scirrhous enlargement — in all of which conditions the gland is non-encircled because it is not encapsulated and is difficult or impossible to reach from above — the normal capsule and sheath are inseparably adherent and bound down to the surrounding levator ani muscles and pelvic fascia, and the bladder is small in capacity and has rigid walls — prostatectomy can be performed successfully only by the perineal route.

Hæmorrhage following operation is usually magnified in amount and easily controlled if hot irrigations but in the event of excessive bleeding the prostatic cavity must be packed with gauze.

The drainage tube should be of large calibre and so placed that the siphonage of the basin is proven perfect before the patient leaves the table. The tube must have lateral and terminal openings to lessen the danger of its obstruction by folds of mucous membrane. Exposing the bladder point of much practical importance is incision of the preperitoneal fat rather than the tearing through of the strictured urethra.

Uræmia and suppression of urine occur at times in spite of careful selection of cases and judicious

judgment both before and after operation His coughing and nausea are the danger signals.

Cabot, H. S. suprapubic Prostatectomy Surg. G. nec. & Obst. 9 3, xvii, 3
By Surg. C. nec & Obst.

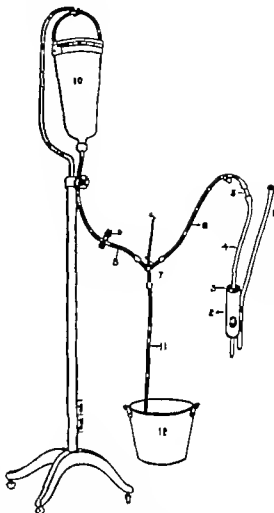
This paper is a discussion of the anatomical basis for the operation of prostatectomy.

Consideration is confined to the class of cases of enlargement that is ordinarily spoken of as hypertrophy. This process is not to be regarded as true hypertrophy but as due to the formation of adenomatous nodules involving only certain lobes of the gland. Stress is laid on the fact that these adenomas do not involve the posterior lobe. The adenomatous masses which arise from the lateral and median lobes are covered on their urethral surface only by thinned true capsule and atrophied muscular membrane, from within which they cannot be enucleated even by dissection. The author holds that the operation of prostatectomy performed by any method, only the adenomatous masses in the lateral and median lobes are removed and that the posterior lobe is not enucleated. He then compares the method of intra-urethral enucleation whether done from above through a suprapubic incision or from below by opening the urethra in the membranous portion, with the operation of Young which attacks the adenomas through incisions on the posterior surface of the prostate. By the intra-urethral method the adenomatous masses are removed easily and completely without damage to the posterior lobe. By the operation of Young the removal of the lobes from under the thinned capsule and mucous membrane is exceedingly difficult and often incomplete. Furthermore, in Young's operation the structures of the posterior lobe are necessarily damaged extensively.

The author therefore is of the opinion that Young's operation cannot properly be regarded as a conservative method. The suprapubic method of approach is open to fewer objections on the ground of unpleasant sequelae such as fistula and lack of urinary control than is the perineal approach, and accordingly is to be preferred.

Day, C. H. A Modified Drainage for Suprapubic Prostatectomy. A. J. M. J. 9 3, xviii, 4 5
By Surg. C. nec & Obst.

The author has suggested a modification of Dawbarn's system syphonage for suprapubic drainage. In using the Dawbarn system, the thor passes the bladder catheter through the center of the Marion



Catheter for irrigating purposes. Marion tube. 3 Metal stopper. 4 Drainage tubing. 5 Glass connecting tubing. 6 Soft rubber drainage tubing. 7 Glass. 8 Irrigating tubing. 9 Regulating cut-off. 10 A large irrigator. 11 Irrigating tubing. 12 Receptacle for waste (Day)

suprapubic tube before he begins the syphonage. If he wishes bladder irrigation in addition, he simply irrigates through the small tube attached to the side of the Marion tube.

B. S. HAMMOND.

SURGERY OF THE EYE AND EAR

EYE

Robertson, E. N. The Present Approved Methods of Treatment of Obstructions to the Lacrimo-Nasal Duct. *J. Kansas M. Soc.*, 1913, 16, 257. By Surg., Gynec. & Obst.

Robertson discusses the treatment of obstruction of the nasal duct and sums it up as follows:

The majority of all cases of lacrimo-nasal obstruction, in the beginning, can be relieved by very simple measures.

Syringing with mild astringent antiseptic solutions should always be tried faithfully even in those cases where a mucopurulent discharge from the sac is present.

"It is better as a rule not to open an acute dacryocystitis through the skin. More satisfactory final results are obtained by letting the pus out through the canaliculus, or by the incision of Agnew followed by the use of the probe.

Rapid dilatation by the method of Ziegler is sufficient to effect cure in many cases formerly made tedious by probing.

Good results can be accomplished by probing in selected cases if the patient will stand for it.

When quick relief to chronic dacryocystitis is desired, extirpate the lacrimal sac.

C. G. DARRIN.

Coats, G. Infarction of the Posterior Ciliary Arteries. *T. Internat. Cong. Med.*, Lond., 1913, 2, Aug. By Surg., Gynec. & Obst.

Coats describes the pathological details of two cases in which wedge-shaped portion of the inner layers of the sclera at the posterior pole was necrotic. A somewhat larger area of the choroid, and a still larger area of the retina, were similarly affected. There was no fusion of the choroid and retina, but moderate amount of infiltration was present in the surrounding tissues. In the divided eye the area appeared as an atrophic patch 8 to 10 mm. in diameter. It had not been seen with the ophthalmoscope, the cases showing clinically the symptoms of chronic iridocyclitis. The author points out that the pathological features of these cases differed from those of an ordinary patch of choroidoretinitis in the great preponderance of the necrosis over the inflammatory reaction, and in the absence of fusion of the two tunics. An inflammation severe enough to give rise to such degree of necrosis must have been accompanied by large amount of plastic exudation, whereas, as a matter of fact, the signs of inflammation were quite moderate. Therefore the necrosis must have been due only to cutting off of the blood supply. This supposition was accompan-

ied by the localization of the patch which corresponded well with the distribution of a single posterior ciliary artery. The condition was indeed an infarction of a posterior ciliary artery, and it had the wedge shape which is usual in infarctions elsewhere.

Infarctions of this kind give rise to toxine which cause certain amount of inflammatory reaction in the surrounding tissues, leading to encapsulation and penetration of the dead tissue with organizing material. In the cases reported it is probable that similar substances diffused forwards through the vitreous, and gave rise to the iridocyclitis which was the chief clinical symptom. It might seem surprising that necrosis *en masse* should occur in so vascular a tissue as the choroid, but it should be remembered that the vitality of tissue after the obstruction of its blood supply depends not simply on its vascularity but also on the freedom with which blood from collateral sources can be poured into it. Thus the kidney and spleen are highly vascular organs, but owing to peculiarities in the distribution of their vessels, are subject to infarction. Similarly, in the choroid it had been shown by Leber that the larger ciliary arteries have few branches of communication. The necrosis of the retina, which has its blood supply of its own, is easy to account for. Probably the element of suddenness had something to do with the matter and perhaps the toxins produced by the necrotic tissue were not without influence. A similar complete necrosis is found on dividing the posterior ciliary arteries in the rabbit.

The presence of necrosis in bulk proved that the obstruction must have been sudden, for gradual blockage of ciliary vessels produces different and sufficiently well known set of phenomena. The block therefore could not have been due to endarteritis alone but must have been caused either by thrombosis or embolism. Unfortunately, no details are available as to the cardiac condition of the patients.

Hartman, N. B. The Results of the First Hundred Squint Cases Operated Upon by the New Method of Subconjunctival Reading and Advancement, with Lengthening of the Antagonist where Necessary. *T. Internat. Cong. Med.*, Lond., 1913, 2, Aug.

By Surg., Gynec. & Obst.

In this operation the tendon is not cut or exposed *in vivo*. The upper and lower edges are cleared by two button-holes cut through the conjunctiva and capsule. The tendon is freshened by rasp. Special forceps of simple design are then passed into the button-holes to secure the tendon. The movement

of the forceps folds the tendon into plaits. The reef is sewed up or advanced as the case indicates, or the antagonist is lengthened by a graduated partial tenotomy.

The steps of the reefing advancement are as follows: (1) The eye is secured with an anchor stitch placed at the limbus in the axis of the tendon to be shortened. (2) The position of the tendon is noted. It is pointed out that there are well-defined surface markings and color differences. (3) The bottom-holes are cut above and below the tendon edge close to the canthus. (4) The tendon is lifted and both surfaces are rasped with the instrument provided. (5) Reefing forceps are applied, adjusted to the extent of shortening required, and tatted. (6) The reef is sewed up by the blanket stitch and (7) the reef is advanced by fixing stitches into the limbus.

The author points out that although the secure large effect by shortening one tendon caused permanent exophthalmos. This was preventable by lengthening the antagonist, which was done by graduated partial tenotomy—the Jigsaw operation. The tendon was exposed secured in director forceps which checked the bleeding and afforded a marked guide to the incisions. Three cuts were made, one severing two thirds of the middle cut. The tendon thereupon extended lengthwise without loosening its attachments or alignment. The author shows how the cuts can be varied so as to secure vertical deviation also.

Results. Of the first 100 serial cases including the earlier experimental operations the results obtained after an average interval of 100 months were: Binocular vision 4 straight 36 error less than 3 degrees, 1 error 5 degrees 3 (these make 85 per cent successes) error degrees 0 error from 1 to 30 degrees, 4 relapse six months after operation during severe keratitis, and on reoperation found six months after operation.

The technique of the operations was demonstrated on a dummy devised for the purpose.

Babson, A. E. The Cause and Treatment of Convergent Squint. *J Indiana St. M. Ass.* 913, v4, 137. By Surg., Gynec. & Obst.

Babson reviews the cause and treatment of convergent squint and states that the proper treatment includes: (1) The recognition of the necessity of giving attention at the beginning of the squint. (2) The correction of the refractive error. (3) Orthoptic training. (4) Operative treatment. He then takes up these points in detail. C. G. DARLINGTON.

Heath, F. C. Sympathetic Ophthalmia with Recovery. *J Indiana St. M. Ass.* 935 v5, 354. By Surg., Gynec. & Obst.

Heath reports the case of a man whose eye had been injured by a piece of steel which was removed from the vitreous thirteen days after the injury by means of a magnet. Two weeks later the eye was enucleated. Four days later the good eye became

inflamed. There were pigment spots on Descemet's membrane and vitreous opacities. A few days later the eye was much worse. There was marked edema and severe pain. Vision was nearly abolished.

The treatment given was sodium salicylate, 360 grains a day inunctions, and finally a hypodermic of pilocarpine grains 1 and nitroglycerine grains .01. During the period of treatment atropine and dionin were used locally. The day following the hypodermic, the patient was salivated and great improvement took place in the eye. The treatment was continued until vision was normal. C. G. DARLINGTON.

Smith, P. Glaucoma Operations. *Tr. Internat. Cong. Med.*, Lond., 93 Aug. By Surg., Gynec. & Obst.

The report shows the extent to which the newer operations for glaucoma have supplanted the classical iridectomy in the practice of British ophthalmic surgeons. In the autumn of 1913 the author addressed an inquiry on this subject to all members of the Ophthalmological Society of the United Kingdom excepting those known to do no operative work. The replies showed that iridectomy variously executed still holds an almost undisputed place in the treatment of acute glaucoma, but that in chronic glaucoma operations expressly designed to establish a subconjunctival fistula or filtering cicatrix, and permanently adenoconeal trephining, have replaced it to a very large extent. Evidence for and against the various procedures is given.

Ray, D. Observations on Operations for Glaucoma. *Scott. M. J.* 93, 4, 535. By Surg., Gynec. & Obst.

Ray discusses some of the operations for glaucoma and reports good results in the three cases on which he performed Borthen's operation for iridostasis. H. MAY.

These results, while few in number have been so gratifying and so much better than I had obtained previously with the operation of iridectomy that I must say I hold the operation in high esteem. The simplicity of its technique and the absence of all signs of irritation following the same certainly commends it to the inexperienced operator. The only criticism that could be made is the fact that it has not been tried long enough to satisfy us as to its permanent value, and the fact that a prolapsed iris is supposed to make a dangerous eye, especially in producing sympathetic ophthalmia. In none of Borthen's cases was there the slightest trouble.

C. G. DARLINGTON.

EAR

Donch, E. B. Two Cases of Loss of Caloric Vestibular Reaction, with Operative Findings. *Tr. Internat. Cong. Med.* Lond., 93 Aug. By Surg., Gynec. & Obst.

The first case was that of a woman twenty-four years of age who had suffered from chronic middle-

the wound our sole object is to prevent infection from without. In the second event various contingencies require attention (1) Collections of fluid (serum or blood) under pressure within the wound have to be released by a firm dural or by probing. (2) Collections of pus must be evacuated by probing. (3) Necrosis must be controlled by moist antiseptic dressings and powders. (4) Redundant granulation tissue must be restrained. Granulations are best avoided by preventing infection in the wound. The easiest method of removing them is by curetting. (5) The formation of excessive scar tissue must be prevented by effecting rapid healing. (6) Tympanic ankylosis are also avoided by rapid healing. They are managed by early and repeated tympanic inflation. (7) The formation of permanent fistula should be prevented by the avoidance of packing and by the encouragement of cicatricial tissue. (8) In general way we have to hurry nature when her reparative process seems too slow. Incidental wounds are aroused by moist stimulating dressings and powders are not aided by general tonic and specific medication when indicated.

With care and good judgment the result of mastoid operation can be made eminently satisfactory. The convalescence is reduced a few days the scar and deformity become negligible pain is obliterated, and the hearing is improved.

Kranepitz: The Dangers of Ligating the Jugular Vein in Otorrhoea and the Possibility of Preventing Them (Gefahren der Jugarvenligatur bei der Otorrhoea und die Möglichkeit ihrer Verhütung). Internat. Zeitschrift für Chirurgie. Klin.-Chir. 9: 32.
By Zentralblatt für allg. Chir. Gruppe.

In the year 1880 Zöllner ligated the internal jugular vein for a thrombosis of otogenous origin. Since that time the operation has been recognized as a procedure for the prevention of otogenous pyæmia. Naturally the focus of the sinus must be opened. On account of numerous other collateral branches some operators will not ligate the jugular vein. According to Stenger no operations should be performed either on the sinus or the jugular vein in the presence of cut suppurative processes within the ear. In chronic cases, especially those complicated with cholesteatomata, ligation of the jugular may be performed in addition to cleaning out the diseased area.

Air embolism and the formation of new thromboses at the site of ligation are unpleasant complications. Fatal congestion of the brain due to anomalies, hypoplasia of the other vessels may occur. More frequent are transient disturbances of circulation accompanied by headache, cyanosis, and edema of the side involved. Injury to the vagus nerve has been observed. Ligation of both jugulars need not be fatal. All of the dangers have not brought the operation into discredit. To prevent

the formation of infected thrombus at the site of ligation the peripheral end of the vein has been sutured to the skin around. To prevent the formation of sudden edema of the brain it must be determined whether the opposite jugular vein is patent. This is done most easily by compressing the vein temporarily. The communication between both jugulars is so extensive that one may be ligated without causing much disturbance in the circulation. With bilateral compression swelling of the supraorbital and retinal veins occurs. The same result is noted if one vein is thrombosed and the other is compressed or ligated. Purmoe.

Jacques, P. Pharyngeal Drainage of Cranial Suppurations of Orogenous Origin (Sur le drainage pharyngien des suppurations crâniennes d'origine otique). J. Internat. Chir. 10: 100.
By Surg. Jacques & Olive.

Otogenous retro-pharyngeal abscess may have three origins (1) Adenophlegmon (14 per cent of cases, according to the author), (2) the rupture of the floor of the tympanum or of a subhyaline cell (44 per cent) and (3) the migration of a local abscess secondary to pachymeningitis (46 per cent).

The author explains the mechanism of this latter variety from 2 cases of his with dissection and anatomical sections. The starting point is prolonged suppuration around the sinuses which finds its exit from the skull through the anterior condyloid foramen or even through the occipital bone perforated at its thinnest point back of the condyle.

Outside the skull the pus tends to infiltrate the cellular interstices of the neck, following the occipital artery and its accompanying nerves and veins. Its progress toward the pharynx is cut off by a resistant musculo-aponeurotic barrier extending transversely between the mastoid and the condyle and vertically between the jugular process of the occipital and the lateral mass of the atlas. It is composed from without in order of the parotid aponeurosis, the styloid process and its muscles, and the rectus capitis lateralis and its psoeura which covers the vessel sheaths in front. A somewhat exceptional anatomical condition favors the transmission of the pus toward the pharynx. This is the presence of an intermediate condyloid foramen which transmits venous channels through the psoeura of the rectus capitis lateralis anastomosing at the sternal orifice of the anterior condyloid foramen with the plexus of the hypoglossal nerve.

The author believes that the discharge of the pus through the pharynx is favorable because it gives permanent sloping drainage, a collection which is imperfectly evacuated by the freest incision through the nape of the neck. He therefore proposes to favor this fortunate complication by cautiously scraping the psoeurotic attachment of the right capitis lateralis to the occipital condyle. A. Gow.

SURGERY OF THE NOSE THROAT AND MOUTH

Verschick, H. Pathology and Diagnosis of Malignant Diseases of the Nose and Nasopharynx. *The Internat. Cong. Med. Lond. 93.*
 Aug. B. Borg G. nec & Obst.

Owing to the bad prognosis of malignant tumors of the nose and nasopharynx, many rhinologists have given up operating on these cases. These tumors are fatal because they are located near important organs and in a region of complicated structure. The clinical malignancy is often more important than that demonstrated pathologically. In this article tumors of the nose and accessory sinuses are treated in one group and those of the nasopharynx in another.

About 800 cases of malignant tumors of the nose and sinuses are cited from the literature. Theories of cause relate to chronic irritation, mechanical or chemical, or changes in the cells due to external influence. The relation of empyema to benign tumors (polyps especially) to malignancy is considered. Histologically the sarcoma is most frequent. They arise usually from the perosteum of the bone, like a predilection for the septum, anterior half of the middle turbinate, and sinuses are most malignant. They originate from the epithelium, the glands, paranasal germ cells.

Symptoms are often latent, the onset usually coming with obstruction and regional pain. Hemorrhage, eye or brain involvement often follows. Metastases, except in the regional lymph glands, are rare. Death often results from cerebral complications or hemorrhage before cachexia has become marked.

1. In the nasopharynx malignancy is less common. Carcinoma prevails and endothelioma more frequent than in the nose. Lymphosarcoma originating in the pharyngeal tonsil is not rare. Symptomatically there is a long latent period. At the onset there is cough, deafness and involvement of the cranial nerves, especially the lower branch of the trifacial then occipital pain and paralysis. Distant metastases are formed only occasionally. The case with which hemorrhage may be started makes the removal of the portion dangerous.

EARLE B. FOSTER.

Kocher and Horand. The Temporary Resection of the Superior Maxilla for Osmification Chondroma of the Nasopharynx. (*Sur un cas de résection temporaire du maxillaire supérieur pour un chondrome osseux du naso-pharynx.*) *Lyon chir. 93, 2.*
 25. By Journal de Chirurgie.

The authors report a case as an example of the usefulness of temporary resection of the superior maxilla as a means of approach to the upper pharynx. Their patient, aged 39 for some months

had had violent headache and signs of progressive bilateral nasal obstruction. On both sides there was symmetrical ophthalmia and paresis of the muscles of the eye, which was most marked in the internal rectus (internal strabismus). Examination showed behind the velum a hard, rough tumor filling the pharynx. It did not bleed and did not yield to pressure.

Jacobson first ligated the right external carotid and then resected the superior maxillary and lifted it upward and outward. This resection gave very free access to the tumor which was as large as the fist. The tumor was extirpated along with an orbital prolongation the size of a hazel-nut. The maxillary was then replaced and fixed by ligature of the incisors and the suture of the molar.

The tumor was made up of irregularly distributed layers of cartilage and osseous tissue separated by fibrous bands.

The patient recovered and the cosmetic result was good. The recovery was retarded for long time however by an abundant suppuration which decreased only after the elimination of a large sequestrum involving the alveolar border and the soft palate. The right half of the vault of the palate was necrosed. Between the mouth and the nasal cavities and sinuses there was a large opening which caused marked nasal tone.

CH. LANGE.

Iglsauer S. Some Attempts at the Intranasal Transplantation of Nasal Tissues. *Ann Otol Rhinol & Laryngol. 93 vol. 2, 305.*

By Surg. Gynec. & Obst.

After a limited series of experiments on animals, the author finds that though there are no technical difficulties in the transfer of intranasal tissue from one individual to another of the same species the surface transplantation will probably fail on account of infection. The submucous transplantation yields better results.

From his clinical experiments he finds that while surface transplantation is not very successful the submucous transplantation of nasal mucous membrane and underlying bone can be carried out with good prospects for the survival of the transplant but that the latter tends to become absorbed.

ELLEN J. P. TIERRO.

Beck, J. C. Removal of Adenoids by Direct Inspection. *Ann Otol Rhinol & Laryngol. 93, 222, 273.*
 By Surg. Gynec. & Obst.

The author claims that by his method of retracting the soft palate adenoids can be removed by direct inspection under ether anesthesia more thoroughly

especially around the Eustachian orifice. At the same time the primary tonsillar hemorrhage can be controlled.

The technique of the operation is as follows: One of the free ends of a small rubber catheter is passed through each nostril and withdrawn through the mouth. After the tonsils are removed the catheter is drawn tight one end over each cheek. This brings the palatal apposition controls the tonsillar hemorrhage and exposes the nasopharynx. With the head extended and the pharyngeal reflex abolished the adenoid mass can be seen and removed by direct inspection by the method approved by the operator.

1114 J P TELMON

Goodale J L. Indications for and the Relative
Value of Totalistomy and Transistomy
T Internat Cong Med Lond 93 Aug
By Borg Cress & Obit

It has not been demonstrated that complete removal of the tonsils is followed by a harmful effect upon the general system.

Tonsillotomy is not as usually less traumatic than does tonsillectomy but the latter the method of removal is of primary importance. A sharp dissection down to the tonsillar artery is seen 90% of the vessels, 90% of the least amount of inflammation reaction.

Of the 1 operation (smaller) above
larger percent of of some complex taken because of
the greater 1 ms (usually) or amount, and also the
relatively larger number of some operations under
high of 1st years or (and is order 1st)

The risk of quaternary amputations is not decreased with available methods of treatment. There is no longer a serious complication if a patient postulates an

While gross deformities of the part involved are not likely to follow removal of an atrial or division of the lumina, ventricles are frequently involved in an interrelationship of benign fibrous inflammation. Consequently, it is seldom that the malformation is followed by maldevelopment of the ventricles, but with good technique should be no other alteration than hypertrophy and/or an occasional partial fusion of the culture.

The indications for operation should be such pathological changes of the tonsils are actually detrimental to the individual.

Simple hyperplasia, if obstructive or causing catarrhal conditions, and if persistent may be sufficiently treated by cornuostomy especially in children.

The systemic ill effects of chronic tonsillitis may be increased by tonsillectomy. In such cases, complete removal is preferable to partial removal.

Although mild cases of chronic inflammation may be sufficiently relieved by appropriate treatment without excision.

Infection of the faeces due to micro-organisms may not be prevented by removal of the tonsils.

Recurrent local infections or general infections

Having their origin in the toulons require toulonic
tomy as soon as a favorable moment for operating
arrives. Toulonotomy may be expected here is
prove inadequate.

Recurrent acute catarrhal infections of the throat require complete removal of the tonsils if these show chronic inflammation although immunity against subsequent attacks is not necessarily secured.

Local tuberculosis of the tonsil requires complete removal of the organ.

In young children with adenoid enlargement requiring removal, the tonsils should not be excised lest they cause demonstrable injury or favor attacks of acute middle-ear inflammation.

If an impairment of the speaking voice is dependent upon laryngeal disturbances that may be corrected according to the principles already given, and if tonometry is indicated, it may be performed with greater technique than on the larynx.

In singers, slight alteration in the tension of the palatal muscles may unbalance the voice either to orally or nasal orally. In the case of beginners the harmful alterations of the teeth, partial or complete removal may usually be effected if the local or general welfare of the patient demands it. With increasing length of singing experience correspondingly conservative attitude should be maintained, particularly in respect to truly fine voices.

Dr. S. L. F. R. W. The Pathology of the Various Acute Inflammations of the Throat and Neck including Acute Oedema, Pharyngitis, Epiglottitis, and Angina Ludovici, but Excluding Diphtheria. 7 Illustrations. Cloth. 10s. 6d.

This paper will report 181 cases of acute septic inflammations of the throat in which bacteriological examinations are made. The cases were as follows: (1) erysipelas of the pharynx, (2) cat septic inflammation of the tonsil and pharynx, (3) cat suppurative inflammation of the throat, (4) acute pharyngitis due to streptococcus pyogenes followed by septicaemia, deep glandular inflammation and pericarditis, (5) cat suppurative inflammation of the larynx, (6) acute ulcerations septic laryngitis, (7) cat septic inflammation of the tonsils and pharynx, and (8) acute septic inflammation of the pharynx, tonsils, and buccal mucous membrane with inflammation of the submucillary cellular tissue.

All of the patients except one were adults in the prime of life. The one exception was a boy 3 years of age. All of the patients are males and previously had been in excellent health. Five of them are hospital patients, and three private patients. In all, the streptococcus predominated in the cover-slip preparations and cultures. Six of the cases were treated with some form of antistreptococcal serum; one case had an autogenous vaccine in addition. In one case the subsequent history is unknown as the patient refused to enter the hospital.

another case serum and vaccine treatment were refused, but the patient recovered. In three cases the prognosis was very unfavorable (Nos. 3, 4, and 5). All of the six cases treated made excellent recoveries as did also the patient who refused serum treatment.

The history, clinical symptoms, the course of the disease and more particularly the bacteriological examination of this series of cases indicate their pathological identity and point to the conclusion that each one should be considered as above, merely a different degree of virulence of one and the same pathological process. The micro organisms that are the chief causative factor belong to the streptococcus pyogenes group. Other organisms however may be and are, found not infrequently more than one organism is present. There is however no one specific organism for every one of these various inflammations. The different localization of these septic inflammations depends upon the resisting powers of the parts attacked. An accidental breach of the surface or pre-existing condition of catarrh renders part more susceptible to infection.

The prognosis of such cases is always very grave. The sooner this fact is recognized by the general practitioner the better. Heart failure is the great danger and it is by no means uncommon for fatal cases to result in twenty-four or forty-eight hours from the onset of the malady. Ludwig's angina should be included in this class of cases and is particularly dangerous to life. In addition to the usual methods of treatment citric acid in 50 gr doses may be prescribed to lower the coagulability of the blood so that the lymph that contains large amounts of antibacterial and antityptic bodies may be freely admitted to the infected parts and the organisms thereby destroyed before the formation of pus.

The main points in the treatment of these inflammations are early recognition, skilled bacteriological examination, including examination of the blood, and isolation if possible of the offending micro-organism, and serum vaccine treatment.

A serum should be given as early as possible. It should, moreover be of a type that most nearly

approaches the autogenous variety. Following the use of serum or in combination with it an autogenous vaccine should be given as soon as prepared.

The author attributes the recovery of all of his cases to treatment along these lines.

Botey R. The Best Method for Extirpating the Larynx (Quelle est la meilleure méthode d'extirpation du larynx?) *T. Internat. Cong. Med., Lond., 9-13 Aug.*
By Surg., Gynec. & Obst.

Botey discusses the various methods of laryngeal extirpation and points out the advantages and disadvantages of each. The method of preference is Gluck's method. Gluck makes two lateral flaps which give a good view of the field of operation. He then cuts all vessels between two ligatures and extirpates the larynx from above downward, suturing the wound completely before separating the vocal organ from the trachea. This effectually prevents the entrance of septic liquids into the trachea. The glands are removed if they are at all diseased. The trachea is not separated from the esophagus so there is no necrosis of the rings or degeneration of the posterior wall. This method has been more successful than any other in avoiding broncho-pneumonia and mediastinitis. Gluck reports 63 cases in which there was no death from operation. The operation without removal of the glands requires 1 hour with removal of the glands, two hours. For patients who cannot stand so long an operation, Le Bec's method in two stages separated by an interval of three weeks is to be preferred. General anesthesia is better than local except for very stoic patients. Botey uses Schleich's mixture, chloroform ether and ethyl chloride, given with an apparatus that mixes oxygen with them automatically.

Special care should be taken in regard to asepsis, and the operation should be performed with all possible speed. The patient should be unusually well nourished before the operation. These precautions, with heat and heart tonics, will prevent surgical shock.

Intelligent and well-trained patients will learn to speak with their pharyngeal voice, and Botey has constructed an apparatus to aid them. A. Goss.

especially around the Eustachian orifice. At the same time the primary tonsillar hemorrhage can be controlled.

The technique of the operation is as follows: One of the free ends of a small rubber catheter is passed through each nostril and withdrawn through the mouth. After the tonsils are removed, the catheter is drawn taut, one end over each cheek. This brings the pillars into apposition, controls the tonsillar hemorrhage, and exposes the nasopharynx. With the head extended and the pharyngeal reflex abolished, the adenoid mass can be seen and removed by direct inspection by the method approved by the operator.

ELLEN J. P. THORSON

Goodale J. L. Indications for and the Relative Value of Tonsillectomy and Tonsillotomy

J. Internat. Cong. Med. Lond. 1933, Aug.

By Henry Green, D. Otol.

It has not been demonstrated that complete removal of the tonsils is followed by a harmful effect upon the general system.

Tonsillectomy involves usually less trauma than does tonsillotomy but in the latter the method of removal is of primary importance. A sharp dissection down the tonsillar artery with sparing of the vessels, gives the least amount of inflammatory reaction.

Of the two operations tonsillectomy shows larger percentage of septic complications because of the greater trauma it usually occasions and also the relatively larger number of septic conditions under which of late years an operation is undertaken.

The relative frequency of post-operative hemorrhage is not definitely established but is now all variable methods of treatment it is no longer a serious complication if dependent upon local causes.

While gross deformities of the parts involved are not likely to follow, ossification of the cartilaginous part of the lacunar orifices is frequent and may lead to an intensification of the original chronic inflammation. Tonsillectomy in unskilled hands may be followed by marked and injurious distortion but with good technique should have no other effect than an approximation and occasionally partial fusion, of the pillars.

The indications for operation should be a pathological change of the tonsils as are actually detrimental to the individual.

Simple hyperplasia, if obstructive or if of external conditions, and if persistent may be sufficiently treated by a tonsillotomy especially in children.

The systemic effect of chronic tonsillitis may be increased by a tonsillectomy. In such cases complete removal is preferable to partial removal although mild cases of chronic inflammation may be sufficiently relieved by appropriate treatment without excision.

Infection of the furrows due to micro-organisms may not be prevented by removal of the tonsils.

Recurrent local infections or general infection

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